G&R GLINK™

PROFESSIONAL EDITION
ENTERPRISE EDITION

Glink

Release

Notes

G&R

**GALLAGHER
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Glink Enterprise Edition, version 8.4
Glink Professional Edition, version 8.4
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Introduction

Glink is a terminal emulator designed for general-purpose communications work. *Glink, Professional edition* and *Glink, Enterprise edition* are Window 32-bit versions, supporting all the current versions of Windows and Windows NT. Windows 16-bit, DOS, MAC and Java versions of *Glink* are also available as separate packages. For more details on *Glink* functionality, refer to the User's Guide, for details on *Glink* configuration, refer to the Administaror's Guide.

This *Glink* Release Notes document is intended for system and network administrators and covers what's new in this release and previous releases. Please read these notes.

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Support

Support is available from your local supplier rather than from Gallagher & Robertson A/S. For information about support numbers check the information screen in the program itself. This screen can be displayed from the Glink menu bar (`Help/About Glink`).

Release notes

What's new

What's new in Glink 8.4

Windows 8

Glink 8.4 has been certified by Microsoft as being compatible with Windows 8. Accordingly it does not warn that it's being run on an unsupported OS. Earlier versions of Glink issue the warning on Windows 8. We strongly recommend that all Glink users intending to upgrade to Windows 8 also upgrade their copies of Glink to 8.4 or later.

We have verified that Glink 8.4 handles all relevant touch gestures provided by Windows 7 and Windows 8.

Internet lookup

A new internet lookup functionality has been added to the context sensitive menu (the menu shown when the Glink page is right-clicked). This lookup function takes the text you've marked on the Glink screen and feeds it to a choice of several social media and search engines. For example you can mark an address and feed it directly into Google maps. Or you can mark a name and look it up directly in Facebook.

User distribution enhancements

Script files using the .scr extension contained in a package build for user distribution are renamed to use .scrgl as part of the install process. This behavior can now be overridden by specifying NOSCRGL as a command in the PACKING.LST file.

The uninstall program GLUNINST that performs uninstall for user-built distribution packages now also uninstalls the Glink license and also deactivates it if it has been activated.

The uninstall program can be run in silent mode (using /SILENT as a command line option) for use with unattended uninstalls.

Script enhancements

A new script command FNDEXEC can be used to find the full path to the executable that is associated with the file type of the specified file name.

A new script command FVERSION provides version information for the specified executable file.

Miscellaneous enhancements

The Ggate interface now supports NVT as a known terminal type.

Fixed problems

The following known errors have been corrected in this release:

E1246: Glink, 'format with tabs' paste could add characters
E1247: Glink, disconnect was not detected
E1248: Glink, VIP7700 overflow from transmit in last line
E1249: Glink, DKU, key press displayed after overflow
E1250: Glink, screen switch from 132 to 80 lost maximize
E1251: Glink, license server parameters not saved
E1252: Glink, uninstall could fail to release license

What was new in Glink 8.3?

In addition to fixes for all currently known errors, the following new features and corrections have been added since the 8.2.0 release of Glink Professional edition and Glink Enterprise edition (see also: What was new in release 8.2.

Activation and check for updates

Activation licenses are now stored as glicense.MACHINENAME.txt files, enabling use of activation on systems where Glink resides on a file or terminal server without conflicts between the various client workstations.

The activation process has been streamlined and now provides more information to help track down potential problems. At activation time an additional information box is displayed with information about the activation, and which also allows you to open the text version of the license with notepad for printing and/or saving the license. Printing and/or saving may also be done later using new buttons in the Help->About Glink dialog box.

Glink can check for upgrades to the software that have been made available on the G&R server. If you are eligible for the upgrade under your support agreement then you will also be given the option of downloading the new version immediately, otherwise you will just be informed that the new version has been released. This checking is controlled by the 'check for updates' box in Settings -> General. Sites with a large number of users may wish to disable this option and only enable it for the system administrator; this may be done using the normal locking option.

Deactivation is performed automatically when Glink is uninstalled, thus freeing up the license for immediate use on another workstation (this requires that the workstation uninstalling Glink has Internet access). Problems with deactivation are reported locally with the information required for G&R to update the license database manually.

Deactivation of a single workstation in a shared environment where Glink resides on a file or terminal server can now be done without uninstalling Glink (which would uninstall for all workstations), using the deactivate button in the Help->About Glink box.

Command line options

/ACT xxxx-xxxx-xxxxx-xxxx can be used on the command line to supply your activation key in advance. If this option is used then activation will be performed silently (if necessary) when Glink is started up.

General emulation

Glink now no longer changes the font size when the host switches between 80- and 132-column modes, but instead changes the window width to accommodate the change. You can revert Glink to its previous behaviour using the CFIX 3827 1 script command.

VT emulation

A large number of improvements have been made to the VT emulation, supporting a larger set of VT-240 commands and status reports.

What's new (8.3)

Support has been added for the DEC technical character set.

DEC NRC (National character replacement) character sets are supported directly. You can suppress interpretation of NRC commands using the script CFIX 3826 1 script command.

Display of DEC special graphics has been greatly improved when Windows fonts have been selected.

Operating systems

Windows 7 and Windows 2008 Server R2 are recognised and reported as supported operating systems, and 64-bit versions are also reported as such.

Telnet keepalive

Keepalives are now supported for telnet connections, both standard connections and those using PuTTY.

Unicode entry

When Glink is running in Unicode mode entry of many accented and special characters may be done using a new dialog box. This box is invoked by default with the Ctrl+F12 key.

Help files on a server

If the help files reside on a server then newer versions of Windows will often refuse to access these, considering them to be a security problem. Glink now avoids this situation by making a local copy of the help files and using this local copy instead.

Help for Windows 7 and Windows 2008R2

Microsoft have made Windows help available for both these operating systems and although these are not redistributable Glink will now connect directly to the Microsoft download page if these versions are needed.

Script commands

SET SSHD script commands have been renamed to SET SSH, and the SET PKEY command changed to SET SSH PKEY. The old formats are still supported for compatibility.

There is a new command ISSERVICE which can be used to tell Glink that it has been set up as a service. This is required for correct display of dialog boxes.

Ggate/DGA debugging

Debugging for the G&R/Gate and G&R/DGA interfaces is now controlled by two new checkboxes in the setup dialog rather than by including –S_ and/or –D_ as additional parameters.

What was new in Glink 8.2?

Glink 8.2 contains all corrections to known errors that have been recorded to date. The major reason for producing a new release at this time is to provide a version that has been qualified for the new Microsoft Windows 7 product.

Windows 7 qualification and approval

This release has been qualified on the 64-bit and 32-bit versions of Windows 7 and has been certified under the Microsoft "Compatible with Windows 7" logo program.

Glink Help on Windows 7

Microsoft has not so far made their Windows 7 version of WinHlp32.exe available for download. Users should check the Windows download site for more information. When the new version is available Glink will be updated to point to it.

Windows Server 2008 qualification and approval

This release has been qualified on the 64-bit and 32-bit versions of Windows Server 2008 and has been certified under the Microsoft "Works with Windows Server 2008" logo program.

New functionality

Full Unicode / UTF-8 emulation

For VIP7800, ANSI and VT-xxx emulations Glink will now support full Unicode for the internal screen image. This support presupposes UTF-8 for host communications.

Facelifting options

Screen => Colour Adjustments => Two-tone background colour allows you to configure a two-tone striped background making it easier for the eye to track lines in a form.

New facelifting options have been added for restricting the area in which Glink searches for on-screen pushbutton texts. This applies to both Screen=> Facelifting => Pushbuttons and Screen => Facelif t=> Pushbuttons => Custom pushbuttons.

Screen => Facelift => Pushbuttons => Custom now allows you to define the texts used on the pushbuttons.

The SET BUTTON FONT script command also sets the on-screen pushbutton fonts.

Drag and drop

You can now drag and drop texts into the Glink emulation window.

TN3270 dynamic model

An option has been provided defining the TN3270 dynamic model terminal type that allows you to specify the emulation screen size for the alternate model

New Glink functions

The following new Glink functions are available:

Add button on marked	Adds a pushbutton for the marked screen area, default assignment is on the context menu (right mouse click).
Copy paragraph	Copies multiple lines to clipboard without CRLF between lines.
Cursor block	Sets block cursor.
Cursor blink	Sets blinking cursor.
Cursor disable	Turns off the cursor.
Cursor enable	Turns on the cursor.
Cursor line	Sets line cursor.
Edit/Paste block	Paste as block, default assignment is on the context menu (right mouse click).
Zoom	Changes the font and window size. Default assignment is on the status line.
Zoom in	Increases the font and window size.
Zoom out	Decreases the font and window size.

FTP improvements

Drag and drop

You can now drag and drop files and directories into the GlinkFTP local or remote file list windows.

Show remote hidden files

This option allows you to see UNIX/GCOS hidden files that start with a dot such as '.profile'.

Script enhancements

The following new commands and variables are available:

SET SSHD PASSWORD	sets the password for SSHD
SET SSHD SERVER	sets the server name for SSHD
SET SSHD USER	sets the user name for SSHD
$SSHPASS	Provides the configured SSHD password
$SSHSERVER	Provides the configured SSHD server name
$SSHUSER	Provides the configured SSHD user name

What was new in Glink 8.1?

The following new features and corrections have been added since the 8.0.0 release of Glink Professional edition and Glink Enterprise edition (see also: What was new in release 8.0):

Windows Vista qualification and approval

This release has been qualified on the 64-bit and 32-bit versions of Windows Vista and has been certified under the Microsoft "Certified for Windows Vista" logo program.

New functionality for Windows Vista

MSI Installation

The Glink SETUP deliveries are now Microsoft Windows Installer MSI packages supporting 'per user' or 'all users' (default) installations. The packages also provide for administrative (silent) installations.

Security

Glink supports UAC (User Account Control), concurrent user sessions and fast user switching scenarios. All executables are delivered with a digital signature and, with the exception of the license upgrade utility (GSTAMP.EXE), contain the program manifests for 'asInvoker' execution level (no elevated privileges required).

Default Glink directories

For Windows Vista UAC (User Access Control) requirements, Glink configuration directories /U and /CD now default to the %MyDocuments%\Glink and %CommonDocuments%\Glink or GlinkExecDir directories.

The default Glink directories are:

Per user:
GlinkExecDir	%LocalAppData%\Apps\Glink Professional
ConfigDir (/CD)	% CommonDocuments%\Glink or GlinkExecDir
UserDir (/U)	%MyDocuments%\Glink

What's new (8.1)

All users:

GlinkExecDir	%ProgramFiles%\Glink Professional
ConfigDir (/CD)	%CommonDocuments%\Glink or GlinkExecDir
UserDir (/U)	%MyDocuments%\Glink

For details on the actual locations of these directories, refer to the Directories used by the emulator and Windows platform directory locations sections.

IPv6 support

Support for IPv6 has been added for all TCP/IP intefaces. IPv6 addresses can be supplied in IPv6 formats or as DNS names.

Vista menus

Glink has been updated to display Vista themed menus.

Vista/XP style variable fields

When available, edit control visual styles are used to display unprotected fields in the emulations, instead of using the 3D look.

Administration

The Glink setup program requests Vista admin rights when installing.

Glink Help on Vista

Microsoft has now made their Vista version of WinHlp32.exe available for download from:

http://www.microsoft.com/downloads/details.aspx?familyid=6ebcfad9-d3f5-4365-8070-334cd175d4bb&displaylang=en

If the updated WinHlp32 is not available on the Vista workstation, then Glink will prompt the user to collect the new version from this location the first time help is accessed.

New product

Glink Enterprise Edition includes GlinkWeb and GlinkAPI for .NET and Java platforms. NOTE that the GlinkWeb COM+ is deprecated and replaced by these versions.

Glink Enterprise Edition

Glink Java/.NET license server: the Glink Enterprise Edition now supports sharing session licenses with the Java and .Net versions of Glink and GlinkWeb by using /CS or /CSSL instead of the /LS command line option.

GlinkWeb: the ASP version of GlinkWeb (Glink in Web mode) has been deprecated and Glink Enterprise Edition customers should upgrade to the new GlinkWeb .NET version.

New functionality

Start up with a configuration list

The /C * command line option can be used to display an initial list of available configurations.

Wallpaper selection

The wallpaper file selection lists are preinitialized with all installed images in the Glink directory. The facelifting dialog also supports 'preview browsing' by immediately displaying the selected background and display options in the Glink window.

UTF-8

Support for UTF-8 encoding for transmission/reception has been added for all host communications.

PuTTY SSHD interface

The plink.exe module delivered with Glink has been enhanced to allow sending a 'break' to the host or do dynamic terminal resizing when using the PuTTY SSHD interface.

TN3270/5250 automatic print session

An option has been provided for specification of a printer LU or device name for TN3270 and TN5250 connections.When this is specified an additional printer session will be started automatically alongside of the normal screen session.

Keyboard transliteration texts

Glink 7/8-bit transliteration files can now be configured with a text description, default texts are applied to the delivered glwink.* files.

What's new (8.1)

Configuration wizard

A new 'wizard' guides you through the initial configuration options when starting Glink for the first time or using the Settings->New... option.

Color adjustment

The color adjustment dialog box has been redesigned and uses the standard Windows color dialog box to select the colors.

Spread font to fit window

If you are using an emulation that allows the host to switch the screen size, for example IBM3278-4 (which can switch between 24 and 43 lines), then this option in the Settings=>Screen=>Font dialog box can be turned off to stop Glink spreading the font, and instead keep its normal size and center it in the Glink window.

Initial window length

The initial length of the Glink window to be used at startup time can now be preconfigured in Settings=>Screen=>Window attributes, making use of the /Rnn command line option or SET SCREEN LENGTH nn startup script command redundant.

Custom on-screen push buttons

Enhancements have been added to the on-screen Settings=>Sceen=>Facelifting=>Custom buttons to allow wildcard character searching.

Configurable Glink title

An option has been added in Settings=>General to allow you to configure the Glink title bar text.

Minimize to tray

An option has been added in Settings=>Screen=>Window attributes to tell Glink to minimize to the taskbar tray status area.

IND$FILE enhancements

The IBM IND$FILE host command is now configurable, allowing user-written CICS transactions to do file transfers. Transliteration for IND$FILE ASCII transfers can be configured by customers transferring files in various character sets

IBM 3270 keyboard functions

Many new 3270 keyboard functions have been added to allow keyboard configurations to be similar to other 'industry standard' 3270 keyboards: forward/backward/delete word, attribute commands, fast cursor move commands, cursor shape selection.

IBM color enhancements

A number of enhancements have been made for color support in IBM emulations: 3270 color emulations now support setting background colors, default low intensity colors are more readable, black background is the default for 3270/5250 emulation modes.

IBM 3270 transparent PCL print

Support has been added for direct host transparent printing and will automatically switch to Windows (text) print mode if necessary, allowing Windows (GUI) printing to be configured for normal host line printing.

IBM 5250 'host print transform' for transparent print

Support has been added for 'host transform' transparent printing and will automatically switch to Windows (text) print mode if necessary. Device information options for configuring 'host print transform' have been added to the TN5250 configuration.

Enhanced VIP7800 Capture mode

The File=>Capture functionality has been enhanced in VIP7800 mode to insert CRLF when the host changes line by cursor positioning commands.

Quality of Service (QoS)

A Quality of Service (QoS) option is added to allow you to select any of the QOS templates available on the workstation.

Script enhancements

The following new commands and variables are available:

EXTRACT	extracts a numbered parameter from a delimited string
FIND	finds a specified string in the screen
MVSCROLL	moves and resizes the scrollback window
RCVTURN	waits for turn
REPLACE	replaces occurrences of one string with another

What's new (8.1)

SET ALTERNATE	sets the alternate server name
SET TRCWIN	controls display of the extra script debugging window
TRACE	enhanced to only show script trace window when TRACE is executed
TRIM	strips leading and/or trailing spaces and control characters
$CFGCHANGED	Indicates if the current configuration has been modified
$FNDX	Used with FIND, returns column of string found
$FNDY	Used with FIND, returns row of string found
$GLCFG	Name of GLINK configuration directory
$LANGUAGE	Language key for program texts

Command line options

/C *	Displays list of available configurations, *.glinkconfig
/CS dnsname	Glink Java/.NET license server DNS name (port 30842)
/CSSL dnsname	Glink Java/.NET SSL license server DNS name (port 30852)
/LB dnsname1,dnsname2	DNS name list of the Glink license backup servers

The following default directory locations have changed:

/CD c:\dir	Specify name of configuration directory (%CommonDocuments%\Glink or GlinkExecDir)
/U c:\dir	Specify name of user file directory (%MyDocuments%\Glink)

FTP improvements

File info tips

When hovering the mouse over a filename, they display more detailed information about the file including the actual LIST text returned by the FTP server.

Recursive directory upload and download

You can now select a directory for upload or download with GlinkFTP.

Symbolic files and directories

GlinkFTP now distinguishes between symbolic files and directories.

Filename conversion options

GlinkFTP can: convert between spaces and underscore, convert to upper case, convert to lower case or capitalize the name. It can also replace the extension automatically when transferring the file.

Create directory

A right mouse menu option has been added for creating directories.

What was new in Glink 8.0?

The following new features and corrections have been added since the 7.2.0 release of Glink Professional edition and Glink Enterprise edition (see also: What was new in release 7.2):

New Glink look

New Icons

For the first time since the release of Glink for Windows in 1992, Glink has acquired new icons as have GlinkFTP, Glink Forms Assistant and Glink License server.

New Toolbar images

For the first time Glink and GlinkFTP have also acquired new toolbar images. Over 100 new icons have been added to Glink to give it a full new XP look and feel. These icons are used in the Glink toolbar, menus and dialog boxes. For a full list of the available images and their default function association you may refer to the Glink function list section of the on-line help.

New platforms

This release has been qualified on the 64-bits version of Windows 2003 and Windows XP. This allows you migrate your users to powerful Intel Itanium servers running Windows 2003 Terminal Server or to take advantage of powerful 64-bit workstations from AMD.

New product

GlinkVisual and GlinkVisual Forms Assistant

This release of Glink Professional Edition includes support for the first release of the GlinkVisual Forms Assistant, to assist you in developing Visual Basic applications to facelift your mainframe application screens. The GlinkVisual Forms Assistant is a separately priced product needed by developers. The runtime support is included in Glink Professional Edition and Glink Enterprise Edition, and needs no additional user license, other than a Glink Professional Edition or Glink Enterprise Edition license.

GlinkVisual is a replacement for GL.Visual, a product developed by another software house and now discontinued and unsupported. GlinkVisual can also replace Net.Visual and EYESYS. There is very little conversion effort needed, and our distributors offer conversion packages that include some or all of the conversion (depending on price).

New facelift tool

GlinkWeb Forms Assistant

GlinkWeb (Glink in Web mode, run on a Web server and accessed from browsers) automatically converts mainframe application screens to HTML on the fly, so that your users can access the applications from a browser. The conversion automatically facelifts the screens to some degree, but you can gain considerable extra functionality for your browser users by investing in some custom facelifting. This release of Glink Enterprise Edition includes the first release of the GlinkWeb Forms Assistant, to assist you in building ASPs (Active Server Pages) to facelift your mainframe application screens for viewing from a browser.

New functionality

Integrated Graphical keyboard configuration window

You configure your Glink keyboard layout using a friendly graphical interface (GUI) in a single configuration window. The Glink emulation window is updated with your configuration changes dynamically as you make them. A Keyboard pane in the configuration window displays a keyboard diagram that is modified to match the keyboard you are actually using. A Functions pane displays a function tree with every Terminal function, Glink function, Macro, Script, Menu shortcut, Configuration dialog box, and Character known to Glink. This functionality is accessed from:

```
Settings / Keyboard
```

You can select key combinations for configuration by clicking them in the keyboard diagram, or by pressing the keys on the keyboard. The basic mode of operation is that you expand the function tree in the Functions pane to reach the function you would like to configure, and then drag it to the Keyboard pane and drop it on the key where you would like the function. There is a separate group with tabbed panes for the Function bar, the Keyboard bar and the Menu setup. You can configure each of these in the same way by dragging a function from the Functions pane, and dropping it onto the item where you would like the function.

What's new (8.0)

Macro limitations removed

To maximize the functionality of the keyboard configuration GUI the macro capability has been dramatically increased. You can configure up to 1000 different macros, each of which may be as long as available memory permits. There is no upper limit on the total length for all macros, again memory permitting.

Integrated graphical transliteration table generator

Configuration of the transliteration tables used to transliterate character set between PC< / mainframe has been moved to the emulation configuration dialog box:

```
Settings / Emulation / Transliteration
```

A "Configure" button takes you to a dialog box that lets you modify the transliteration table or build new ones.

Text to button (hot spot) conversion extensions

The facility for pre-configuring screen texts for conversion to buttons has been extended from detecting only strings such as 'Fnn', 'PFnn' etc. to allow you to configure any text you might receive from the mainframe for automatic conversion to a button. Each text you configure is associated with a macro that can use any of the normal macro functions, including execution of script commands. This functionality is accessed from:

```
Settings / Screen / Facelifting / Custom
```

Language extensions

Support has been provided for use of the Arabic character set. Glink uses ANSI Arabic (code page 1256) internally, as do other Windows applications. Mainframes normally use ASMO (code page 708) for transmission over the line, and Glink includes a transliteration file (GLWINK.ARA) that implements this. You select the transliteration table in:

```
Settings / Emulation / Transliteration
```

As for the other Windows character sets, you configure Arabic in:

```
Settings / Screen / Fonts / Character set
```

The Bull DKU emulation has been extended to support Arabic, using the standard Bull character set (C114) on the GCOS7 mainframes. C114 is ASMO, and needs the GLWINK.ARA transliteration.

The IBM emulations have been extended to support all of the double-byte character set (DBCS) languages: Japanese (using SHIFT-JIS locally), Chinese Simplified (using GB2312 locally), Chinese Traditional (using Big5 locally) and Korean (using Hangeul locally). All you need to do is install the standard Windows National Language Support for the languages in which you are interested.

SSH (Secure Shell) extensions

In addition to being available as a separate Communications Interface, Plink is now available transparently from all the TCP/IP interfaces.

That means that you can run a Ggate, TNVIP, TN3270, TN5250, Telnet or Rlogin session with SSH. Glink automatically and transparently starts the PuTTY interface and dynamically sets up SSH port forwarding for your connection. This is far easier for you than the static and complicated port forwarding configuration offered by PuTTY. You can set up a single SSH system to act as a secure gateway for all of your internal mainframes, whether they be Bull, IBM, UNIX or Linux. Note that Glink FTP can now use SSH port forwarding, so that your SSH system can also act as a secure front-end for all your FTP transfers.

Comms interface

The Comms interface dialog box has been simplified and enhanced to allow you to select the TCP/IP protocol you require directly.

New Communications protocol for Bull users

The new G&R/DGA (Direct GCOS Access) interface allows you to connect to Bull mainframe systems using either DSA or DIWS protocols over TCP/IP, without the need for a Ggate (or TNVIP) intermediate server or front-end system. DGA is a full-scale implementation of DSA/DIWS. It handles both DSA200 (accessing GCOS 7) and DSA300 (accessing GCOS 8 and GCOS 6). The DSA300 protocol includes all CXI options for accessing TP8.

Unified File Transfer

The Bull UFT (Unified File Transfer) protocol has been added to the set of file transfer protocols supported by Glink when it is using the new DGA (Direct GCOS Access) protocol:

What's new (8.0)

```
Transfers / File transfer menu
```

IBM 3270 graphics extensions

A number of enhancements have been made for graphics displayed in 3270 mode:

Display of graphics screens has been speeded up by displaying the graphics as they are received rather than waiting for the entire screen.

Graphics are displayed at a size that suits the current screen size. However, if you resize the Glink window, Glink will now resize the graphics along with the window.

Full support for printing and copying graphics to the clipboard is provided.

Some minor changes to the way in which colors are displayed provide better compatibility with IBM's Personal Communications.

Additional predefined color schemes have been provided both for screen color mapping and printer color mapping.

IBM 3270 APL support

The IBM 3270 terminal was available with an option for display and entry of APL symbols for programmers using that language. This support is now built into Glink. Glink uses the same keyboard layout as the original terminal and IBM's Personal Communications package.

Display of APL characters from the host is automatic. APL keyboard entry mode is toggled on and off using the Ctrl+F8 key. For real usability in entry mode a keyboard overlay (or a real APL keyboard) is desirable. The font needed for APL display is provided as part of the standard Glink delivery.

Simplified transition to Glink for 3270 users

In this release we deliver keyboard layout files that simplify your migration from other 3270 terminal emulation packages to Glink. From the new graphical keyboard configuration interface you can load keyboard layouts offering the same 3270 keyboard functions and mappings that you are used to from IBM Personal Communication, NetManage RUMBA, WRQ Reflection or Attachmate EXTRA!

ANSI SCO keyboard layout

This release of Glink offers a new ANSI SCO keyboard layout file that is 100% compatible with the SCO function key mapping used both on SCO UNIX systems and on all major Linux distributions.

Script trace window

The script command 'Trace' now starts a trace window that displays the source of the script, highlighting each command as it executes. An optional parameter to 'Trace' supplied a delay in tenths of a second to be applied between each script command, in order to make it possible to follow what happens in the trace window.

Script trapping of Double-click

If you set up an 'ON KEY' trap for single-clicks (MLEFT, MRIGHT, MMIDDLE), you can set up an additional trap for double-click of the same keys (MLDBL, MRDBL, MMDBL). The double-click can only be trapped if the single-click is also trapped.

Script timeouts for dialog box controls

If your script defines a dialog box you are now able to use TIMEOUT and INACTIVITY options for many DBOX controls. These have an obvious application for buttons, where you can 'press' the button after the specified interval. But you can also apply them to checkboxes and radio buttons, where you might use a shorter timeout to select given options before the button timeout is reached.

Script Button extension

The BUTTON/SET BUTTON family of script commands has been extended to support up to 48 buttons.

FTP improvements

Glink FTP now supports secure file transfers using either SSL or SSH. You select the security you want in Setup / host. The configuration of SSL or SSH is identical to the configuration of the same options in Glink.

The four gigabyte limit on file transfers has been removed. You can happily transfer complete DVDs using the Glink FTP.

Transliteration has been added for text file transfers, both as a default or forced for a specific file transfer. Any Glink transliteration file can be selected.

What's new (8.0)

Icons for 'Upload/Download as' (i.e. with renaming) have been added to the toolbar.

Up/down indicators have been added to the file sorting buttons.

You can configure the meaning of a double-click on a file to be 'Open', 'Edit', 'View', 'Up/Download' (keeping name) or 'Up/Download as' (to rename). Select the option you prefer in Settings / Files.

Options have been added to regard mainframe files with no extensions as text (as opposed to binary) for transfer, and add or strip the .txt extension to the file name. This is useful for some mainframes, such as GCOS8.

Glink API extensions

GlinkApi.restoreScreenContent	restore a saved screen
GlinkApi.saveScreenContent	save the screen (compressed)
GlinkField.isUpperCase	is field restricted to upper case
GlinkApi.getScreenCharacterSet	obtains Glink character set name
GlinkApi.flushGlinkEvent	clear event queue
GlinkApi.queueGlinkEvent	use event queuing (not listener)
GlinkAPI.getGlinkEvent	get event from queue

Glink packaging tool

The G&R/GLPACK tool for repacking the software for delivery of custom installations is now provided as part of the standard software set.

Glink HLLAPI REXX support

Glink HLLAPI is extended to support REXX language interpreters. Qualified for use with the Regina REXX interpreter

http://regina-rexx.sourceforge.net/

Facelifting enhancements

The 'fix DKU attributes' option has been enhanced to work with both 3D effects turned on and off. By default this option is turned on to improve the visual rendition of non SDP forms

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What was new in Glink 7.2?

The following new features and corrections have been added since the 7.1.0 release of Glink Professional edition (see also: What was new in release 7.1):

Glink Enterprise Edition

This release contains a completely new edition, Glink Enterprise Edition which is licensed by number of simultaneous sessions and allows use of Glink from the web. A Glink license server must be set up to issue session licenses.

Glink from the web

Glink Enterprise Edition includes GlinkWeb, a web mode feature, which web-enables core business applications, making them available to end-users having only a standard browser installed on the desktop. GlinkWeb requires no changes to the mainframe applications, and no installation of workstation software other than the browser. The Enterprise Edition also includes web controlled workstation mode, allowing you to choose between running Glink on a web server with a browser interface, or running Glink on the workstation, installed by, and under control of, a web server.

The Enterprise edition includes a working demo of Glink in both web controlled mode (in a window) and GlinkWeb (in a browser). These demos illustrate the ease of use and simple configuration of implementing Glink from the web.

Glink license server

The Enterprise edition requires a Glink license server for issuing session licenses. The server can be setup to run as a service or run as a foreground process on the desktop. A monitor program is also supplied to display relevant status information.

GlinkApi COM+ server

Both the Professional and Enterprise editions of Glink include a new thin-client version of the GlinkApi COM+ object. This version of the API is a multi-threaded out-of-process COM+ server designed for client and server application use. All the user interface has been stripped out, optimising the object and minimizing the footprint. This new object is automatically registered when you install Glink and can be created using the GlinkApi.GlinkApi class name. The normal Glink.GlinkApi objects can still be created, in which case a standard Glink will be started.

What's new (7.2)

The Professional edition of the GlinkApi COM+ object is restricted for development of small-scale client or server-side applications. Support of many simultaneous sessions in a production environment requires an Enterprise Edition license.

SSH

A new SSH comms interface has been added for communication with SSHD daemons. This interface integrates the freeware utility called PuTTY into Glink. The software is distributed under the MIT licence, see:

http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Security

Restricted user /R command line options have been added to disable settings and other menus, configuration options, script startup, dial directory, file transfer, toggles and the DSA host connection menu, see the Basic configuration enhancements below for more details.

Use of the administrator /K option is now reserved for users with administrator privileges.

All modules delivered in this release are now digitally signed by G&R. Right clicking any executable and choosing Properties->Digital Signature should show a Thawte certificate issued to 'Gallagher And Robertson AS'. If this is not present then you are using a version that has been modified and should contact your distributor to ensure that you have the correct files.

Codepage and language support

Codepage options for Windows fonts has been added. This provides support not only for Latin-2 and Greek but also a number of others, for example Codepage 1250 (Eastern Europe), 1251 (Russian), 1253 (Greek), 1255 (Turkish), 1257 (Baltic), 1258 (Vietnamese), 874 (Thai), 932 (Shift-JIS) character sets. Codepage support requires installation of NLS before use.

Support for Japanese Shift-JIS is enabled using dual-byte encoding from the host.

The clipboard interface supports Unicode format for correct transfer.

Script enhancements

A new facility has been added, 'learn mode'. This allows you to do a simple 'record' of your interaction with the host, and save this as a script file for future use. The facility is accessed either through a new default button on the toolbar or through the edit menu.

The script TRACE command has been enhanced. When this command is used, a separate window will open when the script is executed, showing the contents of the script file and highlighting each line of the script as it executes.

Support for Unicode script files, Windows routines are used to internally convert to the currently active codepage before use.

Support for LF-delimited script files has been added.

New 'keys' MLDBL, MRDBL and MMDBL have been introduced in order that double clicks may be trapped by the script ON KEY command. Note that this will function only when the corresponding single click is also trapped by the script.

The following new commands and variables are available:

CRDW allows you to read double-byte values from the configuration file in a single operation

OLE ERRORS	gives control over OLE runtime error handling
PPROFILE	allows you to write values to INI-style files
RESET TURN	for resetting the ON TURN event
SET ISTATUS AUTO/SHOW/HIDE	for internet transfer status window
SET PKEY keyname	for setting the private key used in the SSH PuTTY interface
$GLCFG	for Glink config directory
$ISTATUS	for internet transfer status
$LICENSE	gives full license text
$LICSERVER	gives license server name
$OLEERROR	gives numeric OLE error code (when available)
$PKEY	gives the current private key

Ggate enhancements

A new dialog between Ggate and Glink gives a list of available Ggate coname and parameters configured on server now visible in the DSA/DIWS Host configuration dialogbox for each Ggate coname. Note, this new feature requires G&R Host Links 6.2.

What's new (7.2)

New models have been added for Ggate that allow for fully transparent eight bit communication, the DKU9107 and VIP9800 models. This removes requirement for SS2 usage on DKU. Note that upgrading the software at the host end will be necessary for these models to be available.

$*$PTRN (demand turn) has been added to Ggate command menu.

Emulation enhancements

The IBM 5250 emulation has more options to control AS/400 error message states. These include allowing any command key to reset the error state, displaying the error messages in the status bar and suppressing the status line.

Basic configuration enhancements

Command line options can be put in a .glink file and used as a shortcut or an URL to start Glink, e.g.:

http://myweb.com/glink/startup.web/myhost.glink

The GLINK.INI file, used for specifying default command line options, can now be placed in the Glink directory and will be read by both Glink and the GlinkApi server.

The following new command line options are available:

/CD configdir	Glink configuration file directory
/J[x] filename	Start debug mode
/LS dnsname	DNS name of the Glink license server
/RD	Disable use of debug mode
/RG a,b,c	Disable predefined groups on menus (1-6)
/RL	Lock all configuration options
/RM p1,p2,p3	Disable specific menus
/RS	Has same effect as script SECURE ALL ON command
/RW	Remove Windows (system) menu
/VER update	Version control option for automatic Glink upgrades

The standalone GLKEY console utility program has been replaced with GUI transliteration table configuration directly from the keyboard options dialog.

You may now specify multiple IP addresses for all hosts. Glink will connect to these sequentially until a successful connect is made. This applies also to the alternate address for Ggate connections.

Marked rectangles can now be configured to include trailing spaces when copying them to the clipboard.

If the emulation mode permits it, you can now paste data as a block at the current cursor position.

An option has been provided to enable numeric checking for DKU input fields using the same limits as does the Wincom emulator.

TNVIP wait for message rather than turn, fixes problems with 'bad' TNVIP server.

Other enhancements

This release has been qualified for use with the Windows 2003 Server family of operating systems.

All the necessary enhancements have been added to Glink to make it Windows XP compliant changing the visual aspects of dialog boxes and controls.

Generic FTP/HTTP access for all files, basically any file referenced by Glink can be accessed using ftp://, http:// or https://

The Enterprise edition includes a packaging tool called GLPACK that allows you to customize the single file setup delivery package.

The License upgrade dialogbox has now been enhanced. Licenses delivered electronically can be pasted directly.

If the PDF documentation files are available a viewer program allows access either directly to installed files or to the files on a CD.

The Glink setup program is now a self-extracting, self-installing package and can include multilingual packages. The package can be customized with the GLPACK utility.

Right mouse double click marks line, as well as current left double click for word.

Full Latin-2 support using SS2 has been added for DKU emulations.

What's new (7.2)

The debug mode option available from the File menu and toolbar has been changed and will now display a debug window corresponding the the /J debug window. Debugging options have also been added to its menu, see new /J command line options for details.

GlinkFTP

All the necessary enhancements have been added to GlinkFTP to make it Windows XP compliant. This allows all the Windows XP look-and-feel options to be enabled.

GlinkFTP now includes context-sensitive online help.

The default start directory is now the %HOMEDRIVE% directory rather than the 'My Computer' drives list.

A new option to specify the 'local port' for the incoming data connection has been added for use when running in non-PASV mode.

Log & trace options have been extended and it is now possible to configure your own viewer when you open/edit files.

Command line options have been added for automatic transfers or to execute a list of FTP commands from a file.

GlinkApi

Most of the enhancements to the GlinkApi have been added due to requirements for GlinkWeb, the new web mode feature.

Amongst its requirements was the need to access the current Glink emulation type and comms interface for special treatment depending on the result.

API access to the Ggate interactive logon parameters is now available. This is implemented as an event that is triggered as necessary by the API when the GlinkApi.start or GlinkApi.connect methods are called.

As the GlinkApi is 'event driven', a method for waiting for the next Glink event to occur has been added. This allows more normal 'scripting' languages such as VBS and Jscript to use the API easily. It is also used by GlinkWeb, as this uses ASP server-side scripting.

Finally, methods for accessing the comms interface in Glink directly were added. These are mostly of use to a server-side programmer requirling direct DSA access to the host.

Here is a full list if the methods that have been added to the GlinkApi interface:

debugStart	Start or restart Glink debugging, send output to a file.
debugStop	Stop Glink debugging.
flushGlinkEvents	Flushes the GlinkEvent queue.
getBackgroundColor	Returns the RGB value for the given field or character attribute.
getCommunicationProtocol	Returns the current communication protocol.
getDataLength	Returns the length of the target area.
getDefaultColorAttribute	Returns the default color attribute settings.
getEmulationType	Returns the current emulation type.
getForegroundColor	Returns the RGB value for the given field or character attribute.
getGlinkEvent	Returns the first GlinkEvent available.
getInteractiveComParams	Returns the interactive communication parameters.
getVariableFieldsEx	Returns the GlinkFields object associated with the current screen with variable fields only.
getScreenCharacterSet	Returns the name of the screen character set configured.
GlinkKey	creates a utility GlinkKey object. This allows the use of the GlinkKey.toString and GlinkKey.toKey methods.
markScreenArea	This method marks the given screen area.
MessageModeBufferOverwrite	Specifies if the message mode receive buffer may be overwritten if the limit of the buffer is reached.
messageModeReceiveBytes	This method returns the byte array received from the host since the last time this method or messageModeReceive() was called.
MessageModeReceiveBytesSync	This method waits until the turn has been received from the host and then returns the byte array of characters received, in the host native character set.
messageModeSendBytes	This method bypasses the Glink emulation and sends a byte array directly to the host.

What's new (7.2)

queueGlinkEvents	Enables or disables the queuing of GlinkEvents.
setGlinkDirectory	Sets the Glink directory.
setInteractiveComParams	Sets the interactive communication parameters.
translateBuffer	Translates a string between ASCII and EBCDIC.

Some new GlinkEvents have been added:

INTERACTIVE_COM_PARAMS_REQUESTED	
	Notifies that the Glink communication module needs additional parameters.
PRINT_STARTED	Notifies that print has started but is not yet available.

For more details, please refer to the "GlinkApi reference".

All the GlinkApi constants have been changed to include the class name that uses them, e.g. GlinkKey_HOME, GlinkEvent_CONNECTED or GlinkConfiguration_PROTOCOL_GGATE_DSA. This change avoids any 'keyword' conflicts between programming languages and constants such as the VB/Pascal conflicts with END, LEFT, RIGHT etc.

New Glink.JS/VBS files are now included with this release. They contain all the constant definitions described above and are automatically included into the source object when running ScriptControl VS/VBS files.

For more details, please refer to the "Differences from the Glink for Java version" section.

A new GlinkApi.GlinkKey method has been added to create a utility GlinkKey object. This allows the use of the GlinkKey.toString and GlinkKey.toKey methods.

What was new in Glink Professional edition 7.1?

The following new features and corrections have been added since the 7.0.0 release of Glink for Windows (see also: What was new in release 7.0):

Secure Sockets Layer (SSL)

Glink can be configured to use the Secure Sockets Layer (SSL) through Microsoft's Secure Channel (SChannel) security package to provide security-enabled communications, including identity authentication and secure, private communication through encryption.

All currently supported versions of Microsoft Windows include SSL (SSL v2/v3 and TLS v1) and data encryption as a standard, and require no additional software, for Windows 95 and 98, refer to the Prerequisites section for details of how these must be upgraded to support SSL.

When a secure connection has been established, a small icon of a lock is displayed in the status bar. If the mouse is hovered over the lock, then the servers X.509 credentials are displayed.

GlinkFTP client

An FTP client is now provided with Glink. This runs as a free-standing program and may be started either directly from the Glink folder, or from the transfer menu in Glink. GlinkFTP is also integrated with Glink via the script language, see the script enhancements section below for more detail.

User interface new-look

The basic look and feel of Glink has been enhanced to give it a 21st century look.

The main features are the new highlighting toolbars and the possibility of configuring a background wallpaper in the host emulation window and surrounding it with a frame with its own wallpaper (see facelifting section), giving a completely new dimension to old legacy applications.

What's new (7.1)

The toolbars automatically highlight as the mouse moves over them. There are two new bars, a keyboard bar and a function bar, which contain emulation specific buttons. All the bars can be moved and docked at the top or bottom of the Glink window, or they can be parked partially or completely outside the emulation window. Their last positions may be saved on exit. An option to prevent moving of the bars is also available.

The Glink dropdown menus now contain menu-tip images. The Settings menu menu can be configured to be a dropdown menu rather than the Win95 style Control Panel icon box.

Facelifting enhancements

Several options have been added to provide for additional automatic facelifting of the emulator screen. These have been grouped in a new dialog box in `Settings / Screen`. They include:

Automatic conversion of function key abbreviations sent by the host into on-screen buttons.

Specification of an image file to use as a background image for the emulator screen, and several additional options for controlling the image display.

Specification of a frame (margin) around the emulator screen.

Specification of an image file to use in the frame, and several options for controlling the image display.

Emulation enhancements

IBM 3270 and 5250 emulations can now be used in typeahead mode.

The 5250 Field exit keys can be configured on the numeric pad in the IBM 5250 emulation options.

AS/400 error messages sent to the status line can now be configured to automatically unblock the keyboard on the next keypress.

Script enhancements

A startup script may now be associated with a particular configuration file.

Names set in the status line with the HOST or NAME commands can now be URLs which will work as hyperlinks.

VBScript or Jscript files can now be started in exactly the same ways you can start a normal Glink script, you can pass input parameters to their Main() function and retrieve return values return values in the $GPARAM script variable.

The OLE script command has been enhanced to work with object collection lists.

The following new commands and variables are available:

    FTP   to transfer a file using FTP

MSGBOX	displays a user message in a separate window
PERFORM EDTRECALL	to invoke the command recall editor
SET 3D options	to set options for 3D variables
SET DKUCOLOR	to set the DKU color mode
SET DKUMODEL	to set the DKU terminal model
SET FCLICK options	to set a clickable area in the frame wallpaper
SET FKEYBAR	controls the function key bar
SET FRAME options	to set frame wallpaper and options
SET FTP options	to set parameters for FTP transfers
SET KBDBAR	controls the keyboard bar
SET RESIZE options	to set the strategy for window resizing
SET SSL options	to set various secure socket operational parameters
SET WALLPAPER	options to set background wallpaper and options.
$FRAMEPAPER	provides the current frame wallpaper filename as set with SET FRAME.
$FTP	provides the status of the current FTP transfer
$FTPADDRESS	provides the current ftp host IP address as set with SET FTP ADDRESS.
$FTPCONFIG	provides the current ftp configuration file name as set with SET FTP CONFIG.
$FTPDEFAULT	provides the default ftp host name as set with SET FTP DEFAULT
$FTPERROR	provides an error message in the case of a failed FTP transfer.
$FTPHOST	provides the current ftp host name as set with SET FTP HOST.
$FTPMODE	provides the current ftp connection mode as set with SET FTP NORM/PASV.
$FTPPASSWORD	provides the current ftp login password as set with SET FTP PASSWORD.

What's new (7.1)

$FTPRESULT	provides the completion code for the FTP transfer.
$FTPSILENT	provides the setting for silent ftp mode as set with SET FTP SILENT/VERBOSE.
$FTPTRANSFER	provides the current ftp transfer mode as set with SET FTP ASCII/AUTO/BINARY/LOCAL8.
$FTPUSER	provides the current ftp login user name as set with SET FTP USER.
$PETX	Provides the ETX position at the time of the most recent transmit command, in scrollback coordinates
$PETY	Provides the ETY position at the time of the most recent transmit command, in scrollback coordinates
$PSTX	Provides the STX position at the time of the most recent transmit command, in scrollback coordinates
$PSTY	Provides the STY position at the time of the most recent transmit command, in scrollback coordinates
$WALLPAPER	provides the current wallpaper filename as set with SET WALLPAPER.

Other enhancements

Default support has been added for WinSock2 when available. TCP/IP domain name addresses can now be above the previous 32 character limit.

Glink internally now uses dynamic length strings. This means that some of the 254 length limits have been lifted, this includes IP Addresses, Script variables, Script texts, etc.

When an 'inline macro' has been defined you will be asked whether the macro should also be saved as a numbered keyboard macro or as a script file.

Editing the recall buffer is now available as a configurable internal function from GLLAY.

The terminate on disconnect option has been extended to provide automatic reconnection if the host connection is lost.

NETSETUP can now install icons on the desktop without creating a program group folder.

The option for printer selection has been extended to allow choice of a printer the first time the printer is used in a given session.

Newer Microsoft products and operating systems now use Tahoma as the standard font for dialog boxes. Glink has been changed to use the same standard, but at the same time, for those who find the font more difficult to read, an option has been added to allow selection of a larger then normal font size.

What was new in Glink Professional edition 7.0?

The following new features and corrections have been added since the 6.2.0 release of Glink for Windows (see also: What was new in release 6.2):

New GlinkApi COM+ component

A completely new GlinkApi COM+ component has been added to this release. The Glink for Windows API can be used from all COM aware visual developement tools in the normal way. A complete on-line Help is supplied in the GLINKAPI.CHM file (HTML Help format) and an Icon to reach it will created in the Glink icon folder.

The API is visible externally as an out-of-process server and can be used from Active Server Pages (ASP) within Microsoft's IIS. ASP support gives access to the GlinkAPI object via the standard SESSION and APPLICATION objects available in Active Server Pages.

The Enterprise edition of Glink (to be announced later this year) will have exactly the same API, and execute within the MTS (Microsoft Transaction Server) architecture as an in-process server, making Glink the perfect host access component for your e-business applications on the Microsoft platform.

NB!! This GlinkApi is 100% compatible with the API supplied with the Professional and Enterprise editions of Glink for Java. E-business application developers who want a cross-platform application can easily migrate between the Glink for Java and Glink for Windows versions of the GlinkApi.

   GlinkApi COM+ source samples

Samples in Borland Delphi and Microsoft VisualBasic are supplied. They are installed as 'read-only' files under the Glink directory in:

   Samples\Delphi
   Samples\VisualBasic

These examples illustrate the basic use of the GlinkApi COM+ component. To execute these examples, you need the corresponding development tool. They connect to live sites via the Internet, using the G&R DSA Gateway interface and connecting to a remote G&R Ggate server (G&R Host Links product) at "gars.gar.no".

Automation object enhancement

The Glink's Automation object been extended with many new methods and interfaces for handling fields, screen data, general Glink information and COM events. This is an out-of-process server that you can start up and use from your own applications. Any COM aware visual developement tool (Visual Basic, C++ and J++) will recognize the Glink Automation object.

The Glink Automation object can also be used within VBScript or JScript files. You can write scripts in these standard script languages, that open and control copies of Glink. You can launch these scripts from the desktop and from all standard Windows applications, and integrate host access with any Office application that can start a script.

Extra!!!

VBscript and Jscript files can be executed from the Glink 'Run script procedure' dialog box. The script is executed directly from Glink in the same way as running a Glink script. The script that you launch will automatically inherit as an object the Glink that you launched it from, so that the script can take control over the Glink that started it.

Security enhancements

More possibilities of inhibiting certain features of Glink have been added:

 Inhibit changes to any of the security options

 Inhibit saving of DSA login user ID and password lists

 Inhibit changes to configuration options by script

Emulation enhancements

Support for 3270 Graphics has been added and can be configured in the IBM 3270 emulation options.

Script enhancements

The limitation of 64Kb for script file size has been removed, and you may now run scripts of any size. The limitation of 32K for compiled size has been increased to 64Kb.

The script command, SET RESOURCE, has been improved to allow you to override one or more of the DSA/DIWS host parameters.

What's new (7.0)

You can detect receiving the 'turn' from the host by using the new ON TURN script command.

If the Microsoft Script Control is installed on your PC then Glink automatically runs VBScript or JScript files if the file name is of the form *.VBS* or *.JS*. The Glink.GlinkApi and Glink.Auto objects of the current session is passed onto the script and are available under the "GlinkApi" and "Auto" names. If you don't have the Microsoft Script Control installed, you can download it from:

http://msdn.microsoft.com/scripting/scriptcontrol/default.htm

Other enhancements

The `Help / About GLINK / Update License` dialog box has been improved to allow you to update the support and phone information displayed in the About GLINK dialog box. If you are updating the license information also, then the netsetup.ini file will also be updated if required.

New host and local printing options have been added to allow GlinkApi programs to intercept all print via the PRINT_DATA event.

What was new in Glink Standard edition 6.2?

The following new features and corrections have been added since the 6.1.1 release of Glink for Windows (see also: What was new in release 6.1):

Changes that may affect the way your current Glink works

Moving from R6.1 to R6.2, the new feature to position the cursor by left-clicking the mouse is on by default, but can be turned off (see below). If you have a release prior to 6.1 then you must search the 'What's new' section of the Glink help for each release since the one you are using. The most dramatic change is that the 3D option for input fields in forms was made default, and must be turned off if not desired. If you have tested the beta release of R6.2 then the integrated API has been removed, and will be made available in the Glink Professional Edition release 7.0.

API enhancement

The COM/OLE model of Glink has been improved to allow access to the emulation screen. The dual-interface COM Component and TypeLib definitions for the Glink.Auto interface are now integrated. This makes it correspondingly much easier to use from external programs in languages like Visual Basic, C++ and J++.

Examples of using the Glink.Auto interface can be downloaded from:

ftp://ftp.gar.no/gar/utility/glink/oleexamp.exe

oleexamp.exe   Glink.Auto C++/J++/VB examples

Please note that the integrated COM component that was available in the R6.2b beta release has been scaled down, and the complete version will not be available until the first beta of Glink Professional (Release 7.0).

Ggate enhancements

Ggate parameters are available in the host configuration menu to allow specification of printer connection name and printer connect to host so that these may be supplied without resorting to using additional parameters.

It's now possible to specify the name of a script that should be run when a Ggate connection has been established.

What's new (6.2)

Presentation enhancements

For those emulations where it's relevant, you may now move the cursor directly to any permitted location simply by left clicking the screen. A new option allows you to turn this off if you would prefer not to use the function.

More 3D effect options have been added to customise the variable field look and feel. Everyone who hated the Microsoft Windows gray background we used with the 3D option will appreciate that we now use the Glink configured background.

The euro character is now displayed correctly for Windows fonts (so long as it is supported in the font being used).

Line graphics are now displayed even if you are using a Windows font; they will also always join up.

New options have been provided to allow dynamic selection of the way zero and underline characters are displayed.

A new option has been added to provide an optional ruler to mark the current screen position.

The context menu invoked with the right mouse button on the main screen will now replace some of the entries that are disabled when there is no current mark, giving new options for 'mark screen', 'print screen' and 'mail screen'.

Emulation enhancements

A wrap around tabbing option has been added to the IBM5250 emulation.

An option has been added to provide control over numeric field checking in the IBM3270 emulation. There are many IBM applications which have specified numeric checking on alphanumeric fields, but which work with a real terminal as long as it is configured with a 'typewriter' keyboard (rather than data-processing keyboard).

Scrollback buffer enhancements

An option has been added to the scrollback edit and context menus allowing you to delete lines that have been marked there. This allows you to be more selective about what is retained in the scrollback. This is yet another scrollback feature for the people who work with Glink all day, and have the scrollback as a handy record of what they have done today. People with entire GCOS dumps in the scrollback will now be able to retain the interesting bits.

Command recall buffer enhancements

A facility for editing the command recall buffer has been included.

Data entry field enhancements

Many data entry fields both in the setup and other menus now implement a list of recently used data. Thus the file names you used in a number of recent transfers are now 'clickable' as choices for the next one.

File transfer enhancements

Previously transferred file names are remembered, see 'Data entry field enhancements' above.

An option is provided for configuring the IND$FILE command input field when using the Transfers/File transfer menu. The default value is the field containing the cursor.

Configuration options have been added for better paste/upload line wrapping control.

An option has been added to allow suppression of the warning provided when a local file already exists and is specified as the target for a file download.

Printing enhancement

AS/400 print support has been added, select the 3812-1 printer model and specify the printer TN5250 device name to connect to.

A new option has been added to provide for interpretation of accented characters when the host sends these in a way designed for printing on DKU attached printers.

The status bar has been extended to show a small printer icon.

What's new (6.2)

For Ggate connections this will show whether or not there is a printer connection active. For all interfaces the printer icon will indicate that there is print waiting for timeout and in that case you can force immediate printer output by clicking on the icon.

New options for printer usage allow you to force use of the printer timeout both for host and local printing. This allows you to print output without necessarily starting a new page for each printer job.

A new option engages logic for avoiding unnecessary blank pages on your printer.

Basic configuration enhancements

The command line, GLWINOPT and GLINK.INI options are interpreted for %VARIABLES%, $USER$ and $USERNAME$, allowing common icon setups in network sharing environments, e.g. GL.EXE /U H:\$USER$\CONFIGS

Modem and printer profiles which were previously stored in the registry under HKEY_LOCAL_MACHINE are now stored in HKEY_CURRENT_USER. When entries are not found in HKEY_CURRENT_USER they will be copied from HKEY_LOCAL_MACHINE in order to preserve settings from previous releases. HKEY_LOCAL_MACHINE may still be updated by an administrator using the /K command line switch.

Script enhancement

New built-in script variables $CX and $CY provide you with the position of the last right mouse click, for use with the CONTEXT command.

The script DBOX command has been extended to support setting colors and attributes for most control types.

The script DBOX command has been extended with an autotabbing feature for edit and combo controls which have the MAXLENGTH option set.

A new script command, GETWORD, provides an easy way of collecting a single word at a specified position in the scrollback or main screen. New script variables $WDX1, $WDX2, $WDY1, $WDY2 and $WDL are used for returning exact information about the word thus found.

Use of the KEYBOARD script command to load a non-existent keyboard definition now sets the OK variable rather than abort the script.

A hand-shaped mouse cursor may be set using the script MCURSOR command.

A new built-in script variable, $RESOURCE, provides you with the Ggate host profile name or TNVIP resource name.

A new script command, SET BUTTON FONT, allows you to change the font used to display texts in the button bar.

A new script command, SET MARKMODE NEW, provides more consistent handling of the script MARK command.

A new script command, SET RESOURCE, provides a method for changing the TNVIP resource or Ggate host profile name.

A new script command, SET DELIMITERS provides control over which characters should be considered as delimiters when words are marked on-screen with a double click. The associated $DELIMITER variable provides those delimiters that are currently set. These delimiters are also used for the new GETWORD command. A new screen setup option allows you to set defaults for these delimiters in your configuration file.

A new script command, STITLE, lets you change the title caption for the scrollback window. This caption is also available in the new $STITLE built-in variable.

A new script command, URLSHOW, provides a quick and easy way of displaying a particular URL in your default browser.

Multiple language support

Glink is now delivered with language text support for English UK and US, French, German and Norwegian. The default language will have been set up by your local Glink distributor. The /L command line parameter can be used to select any specific language at run-time.

What was new in release 6.1?

The following new features and corrections have been added since the 6.0.0 release of Glink for Windows (see also: What was new in release 6.0):

The option to turn on FORMS and TEXT mode 3D effects is now default. In FORMS mode the presentation of fields will look like standard dialog boxes. In TEXT mode, then a black text on a gray background is used.

NOTE: If you had not already switched this option on, then you will notice this by the change to a gray background. If required, you can turn this option back off in Screen/Options/3D variable fields.

Emulation for IBM5250 and IBM3151 terminals has been added.

The TN5250 interface has been added for connectivity in IBM5250 emulation mode.

The GLLAY utility has been extended to allow customized keyboard layouts for both the IBM3270/5250 and IBM3151 terminals.

New GLCOLS.INI file for pre-defined and configurable screen and print color schemes. Selected and configured via the Color adjustments dialogbox.

The scrollback buffer can be configured up to 32766 pages instead of 249.

The use of Ctrl+C/Ctrl+V as Copy/Paste or as emulation keys is now configurable for the character mode type emulations.

TCS options have been added to the DKU setup.

The toolbar and the statusbar now follow the windows configured 3D colors.

TN3270 and TN5250 protocol options have been moved from the emulation setup to the TCP setup.

A Process marked option has been added to the right mouse floating popup menu. This allows you to execute the associated application if it is a file name, or start your Web browser if it is an URL.

You may now configure either Windows printing or Direct printing, separately for local printing or host printing. Direct printing can be Windows Passthrough printing or Physical printing.

Both Windows 16-bit and 32-bit versions of Glink now share the same printer setup dialog boxes.

New print options provide for specification of both vertical and horizontal formatting.

Glink may be delivered in an unstamped form, in which case the SETUP program will ask for the necessary Serial number information before installation procedes.

Script termination has been added for numeric value overflow conditions.

The following script commands have been added or enhanced:

ON ENDPRINT	Activates on print termination
PERFORM KILLALL	Kills all previous G&R DSA and DIWS sessions ('Ggate')
PERFORM LDIALOG	Displays the Local dialog menu if applicable to the communications interface
SET DEVICE	Also sets the IBM LU device name for the TN5250 interface
SET IBMMODEL	Added 5250 and 3151 models
SET PRINTER printer_name	Allows specification of the current printer
SET RLFILTER characters	Allows specification of additional filtered characters for the script RCVLINE command
SET RLTERM characters	Allows specification of alternative terminator characters for the script RCVLINE command
SET SERVER server_name	Allows specification of the server name or IP address used in the communications interfaces
SET TCP	TN3270 and TN5250 protocols have been added
SET TCS	Controls the TCS mode

The following script variables have been added:

$NCOMPUTER	provides the network computer name
$NUSER	provides the network user name

What's new (6.1)

```
$PRINTER        provides the current printer name
$RLTERM         provides the terminator received with RCVLINE
$SERVER         provides the currently configured host or IP address
```

In this release, the following configuration options will be changed the first time you load a previously generated Glink configuration file. All of them may be modified again manually, if so, then the configuration file must be re-saved.

```
General / Message-based mode
                        turned on for less CPU usage
Communications / Option / Use notifications
                        turned on for less CPU usage (Win16)
Screen / Options / 3D variable fields
                        turned on 3D dialog box style display for
                        FORMS mode
Emulations / VIP options / TSM8 forms directory
                        if not set, defaults to 'tsm' in the Glink user's
                        directory
```

What was new in release 6.0?

The following new features and corrections have been added since the 5.4.0 release of Glink for Windows (see also: What was new in release 5.4):

The software is now available in a fully 32-bit version for Windows 95 and Windows NT (3.5 and 4.0).

The main differences between the native 32-bit version and the 16-bit version are:

Supported communications interfaces (fewer in 32-bit either because of consolidation of previous interfaces or because no API is as yet available).

Windows Telephony is supported by the Win32 version in addition to those interfaces that were supported previously (Note that the script CTYPE command uses TAPI to set this interface, the former Excelan TELAPI interface now uses TELAPI).

G&R GLAPI provides Glink with a link to G&R/LDSA. Light DSA is a DSA protocol stack which can be loaded on the user PC and enables it to connect direct to the FCP card in GCOS7/GCOS8 mainframes using DSA session over RFC1006 in TCP/IP networks.

All communications interfaces running in the 32-bit version now run in message-based rather than polled mode, for better use of system resources.

Direct printing is no longer supported, but is replaced with the 32-bit equivalent. This change is reflected in the user interface for printer configuration.

Support is provided for the Intellimouse and compatible pointing devices, giving easy access to the scrollback window and scrolling of that window.

Setup adds icons to the Glink group for all the commonly used parts of the software, and optionally can install an icon for the program itself directly on the desktop (first time setup only).

An uninstall utility is provided.

An initial implementation of HLLAPI is provided with this release.

TCS local forms are supported in the DKU emulation.

What's new (6.0)

The context menus (right mouse button) in the main screen and the scrollback now include a send mail (for marked text) option for those systems that are MAPI-enabled.

The NETSETUP utility contains a number of enhancements to allow optional selection of which icons to install, installation of non-Glink icons, and in the 32-bit version, uninstall of the software.

The following script commands are new or enhanced:

DBOX	RANGE option for numeric edit fields
	MINLENGTH option for edit fields
LINE	simulates input from the host
MARK	mark an area in the current screen
OLE	OLE automation controller interface (32-bit only)
SET MRECT	toggles the 'mark rectangles' option

The following script variables have been added:

$IPADDRESS	provides IP address of current host
$MYIPADDRESS	provides IP address of Glink machine
$MWHEEL	provides (and resets) amount of mouse wheel rotation
$NT	'1' if running under Windows NT, otherwise '0'
$OLERESULT	gives error text for OLE
$W32	'1' if running 32-bit Glink, otherwise '0'

The following pseudo keys are provided for the purpose of trapping actions performed with the Microsoft Intellimouse and compatible pointing devices:

MMIDDLE	middle mouse button/wheel down
MMUP	middle mouse button/wheel up
MWHEEL	mouse wheel rotation

Because the 32-bit and 16-bit versions diverge slightly so far as resources are concerned, but basically are the same in most respects, this version uses source RC files with conditional compilation to generate resources. Translators should contact us for source data and for up-to-date information about relevant tools that can be used to prepare nationalized versions.

What was new in release 5.4?

The following new features and corrections have been added since the 5.3.0 release of Glink for Windows (see also: What was new in release 5.3.0):

The following script commands have been added or enhanced:

CFXW	like CFIX, but is used for modifying two-byte values.
DBOX	supports an optional MINIMIZE clause
SET DEVICE device_name	sets the IBM LU device name for the TN3270 and TN3270E interfaces
SET IBMMODEL model_name	sets the IBM terminal model for the 3270 emulation
SET IPATTERN{ON	OFF}	specifies whether there should be an implied idle period when a pattern is detected from the line.
SET TCP TNVIP	sets the telnet protocol to TNVIP
SET TTYPE device_type	sets the terminal type on telnet interfaces (including TNVIP)

The following new internal script variables have been added:

$DEVICE	Allocated LU name on TN3270E interfaces
$NGLINK	Number of copies of Glink currently executing
$WHEN	Pattern number of most recently activated WHEN statement

A new command-line parameter, /B n, allows you to specify which LANA number should be checked first when making NetBIOS connects. Normally this checking will start at zero, but when multiple NetBIOS stacks are configured, the stack over which you wish to communicate may not be the first one that's found. An equivalent parameter has also been provided for the Windows asynchronous modem server, GLNETW.

Support has been added for FOSSIL drivers; this support is specifically targeted at FOSSIL drivers for ISDN cards, although it may be used for other purposes.

Support has been added for running the 3270 emulation on GCOS hosts (in ASCII mode).

What's new (5.4)

Support has been added for extended TN3270 (TN3270E) mode, as described in RFC1647, and as implemented (for example) in the Microsoft SNA server running under Windows/NT. This mode provides the following features:

-support for specific LU names, which may either be configured as specific devices or as a members of a device pool on the server.

-support for printer sessions both with SNA character stream (LU type 1) and 3270 data stream (LU type 3).

-support for both the ATTN and SYSREQ keys.

-support for the SNA positive/negative response process, especially useful for controlling print sessions.

-support for embedded NVT data (ASCII text) as part of the data stream from the server.

-support for SSCP-LU data messages.

A 32-bit version of the UVTI interface is available in this version. An on-line UVTI help file (UVTI.HLP) is also provided by courtesy of Groupe Bull.

The option controlling whether or not lowercase letters should be sent to the host has been moved from the DKU setup menu into the general emulation setup menu, and extended to be active in all emulation modes.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

What was new in release 5.3.0?

The following new features and corrections have been added since the 5.2.0 release of Glink for Windows (see also: What was new in release 5.2.0):

For Windows '95 users, the following optional enhancements have been included:

Full support for long filenames.

Completely revamped setup menus using an icon-based main window which in turn accesses multiple 'tabbed' property boxes. All numeric fields have spinner controls to allow adjustment with the mouse.

DBOX edit controls may use Windows '95 spinner controls, and a new control type, the trackbar, is available.

Windows '95 context sensitive help; all setup menus contain the question mark control in the caption and all options may be right-clicked for popup help.

Automatic file association for Glink script files using an extension of .SCRGL (the currently used .SCR extension has already been reserved for screen savers). The program has been modified to use the .SCRGL extension as an alternative in all contexts where .SCR is used.

> NOTE: Windows '95 functionality is not enabled unless you specifically request it during installation (although many features of Windows '95 will automatically be used in any case, for example dialog box look and feel, proportional scrollbars, etc). A copy of the program that has been Windows '95-enabled will no longer run on earlier versions of Windows. A small utility program (WSTAMP.EXE) is included with the release to allow you to change the version number in the Glink executable if you wish to do so at some point after the initial installation.

The Ctrl/Shift/Alt+insert keys may now be reconfigured using GLLAY. Note that Shift/Insert is not recognized by the normal DOS keyboard; use the pseudo-scancode of 13 to redefine the key. The copy and paste functions normally defined for these keys are also available for placement on other keys.

What's new (5.3)

> NOTE: that if you are using GLWINL.xxx keyboard definition files
> where the Insert key combinations already have been defined as
> something other than the default values then these redefinitions
> will now be in effect, and you may need to run GLLAY again if you
> wish to restore the copy/paste functionality.

GLLAY may now also be used to redefine the Enter and Return keys, either alone or in combination with the Ctrl key. The keys are defined separately, which allows you to define only one of the two to be a transmit key. leaving the other as a return key (as opposed to the enter = XMT option, which maps both keys). The tab key is also redefinable as 'simulated' scan code 2.

Emulation of the Bull DKU7102 terminal has been added.

Support has been added for the rlogin and TNVIP protocols in all TCP/IP interfaces.

Support has been added to enable connecting to machines that are configured behind a socks server.

The following script commands have been added or enhanced:

#IFDEF	can now give optional compilation based on beta release level and validity of internal variables
CALC	calculates the result of a complex formula
CONTEXT	allows you to add new entries to the context menus (those invoked by pressing the right mouse button).
DBOX	now provides for the possibility of suppressing the resizing of bitmaps shown with the BBUTTON and BITMAP commands. Under Windows '95, EDITTEXT fields may use a 'spinner' control using the UPDOWN control style, and a new control type is available for trackbars.
FILTER	provides for removal of selected characters from a string.
GWCONNECT	has been extended to provide for connection through the G&R DNTD gateways.
RATR	allows you to read physical and logical attributes from the screen.
SERVER START	allows you to start a local Kermit server
SET DBGFILE	allows you to change the default name of the debug file.
TCKEY	sends a TCU function key on the Atlantis V8 interface

The following new script variables have been added:

$CERR	Returns position of error in failing CALC command
$CMDLINE	Provides the command line parameters used
$CRECEIVE	Provides a count of characters received
$CSEND	Provides a count of characters sent
$DDIR	Provides the name of the dial directory
$MRECT	Allows you to test whether the screen mark is rectangular or not
$MSRECT	Allows you to test whether the scrollback mark is rectangular or not
$SCRIPT	Provides the fully qualified path name of the current script
$WDIR	Provides the pathname for the Windows directory
$WINSTAMP	Returns version of Windows program is stamped for
$WINVER	Returns the current Windows version
$WSYSDIR	Provides the pathname for the Windows system directory

Three additional 'pseudo-keys' may be used in the script ON KEY command:

MLUP	Left mouse button released
MRUP	Right mouse button released
MMOVE	Mouse has moved

(these are designed for use with special-purpose applications that need to track mouse actions with greater precision than just tracking mouse clicks).

An option allows you to specify that resizing the Glink window should change the number of rows and/or columns in the emulator screen, rather than add scroll bars or resize the font.

The printer auto orient option has been extended to let you choose portrait or landscape mode irrespective of the currently set printer default. Additionally a passthrough option is available to enable you to send host output directly to a printer while still using the Windows output routines otherwise.

Support has been added for annotations to the scrollback buffer. These may be attached to bookmarks or free-standing.

Using the right mouse button in the main emulator and scrollback windows provides the most-often used functions in a floating menu.

An option has been added to enable compression of context save files.

What's new (5.3)

Renaming of colliding incoming files in Kermit has been extended.

A windows-specific version of the GLNET modem server, GLNETW, is provided with this release of the software.

A new administrator tool for simplification of user setup in a networked environment is included in this release.

The IND$FILE transfer protocol (DFT mode) has been implemented for the IBM 3270 emulation. Note that you must configure as an extended terminal type for this to function correctly (in some cases the query bit must be set in the terminal definition in the TN3270 server).

Transliteration for the IBM3270 emulation has been extended to tackle full 8-bit character sets in all national languages, and support Icelandic and Latin-2. If a keyboard transliteration file of other than the DEF default is used this will be applied after transliteration to ASCII on host data and before transliteration to EBCDIC on terminal data.

New options have been provided for definition of printer margins.

For the Windows Sockets interface, the connect timeout is now configurable.

The Ggate interfaces have been extended with an alternate IP address, an option for random connection, and a connect delay to specify how long to wait before attempting to connect to the alternate. These options provide both for greater fault tolerance and for simple load levelling. An option has also been added to the TCP/IP setup for setting the keepalive interval on the Ggate interfaces. It's now also possible to specify default values for interactive parameters that may be accepted or changed by the user prior to making a connection

Defined file associations are now also used for filenames passed to Glink using the internal escape sequence.

ANSI/VT attribute mappings are now also applied in DKU7107 mode so long as you are set up in monochrome (1M) mode in the DKU setup menu.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

What was new in release 5.2.0?

The following new features and corrections have been added since the 5.1.0 release of Glink for Windows (see also: What was new in release 5.1.0):

An option has been added to provide greater compatibility with the form of ANSI emulation used on many bulletin board systems.

Use of interrupt 5A on the Eicon NABIOS interface is required on this release.

A new interface which allows you to run X.25 TGX connections over the Eicon OSI Gateway software has been added.

The Ggate interface has been modified to allow interactive entry of multiple login parameters rather than just the password. The password parameter is encrypted (note: the algorithm is not intended to be secure but simply to prevent casual inspection) before being written to the GLHOST.INI file if it's saved there.

An option has been added to the scrollback edit menu to allow manual clearing of the scrollback buffer.

An option has been added to printer setup to allow automatic switching of printing between portrait and landscape modes depending on the current screen width.

An option has been added to printer setup to allow you to decide on what basis the printer selection should apply. This can be set to always follow the current windows printer, to start with the current windows printer but not to change in the course of a session if the windows printer is redefined by another application, or to apply permanently to both the current and any future sessions.

Modifiers may be specified for script variables (both standard and internal) with a number (zero to 63) and an arithmetic operation (+, -, #, /, where # is used for multiplication rather than the more conventional * because of a clash with the standard comment marker). Such modifiers must be specified with no intervening spaces. Some examples of valid syntax:

```
ASSIGN %var1 %var+4
POS $Y $X+2
SUBS %A %B $SCAN+1 80
IF (%1#2 ltn %2) goto LABEL
```

What's new (5.2)

The above functionality is for the moment provided on an experimental basis only, and should not be used in production scripts in that it may change in future betas.

Double-clicking an item in a DBOX list box will now terminate the dialog box (and is considered to be equivalent to pressing the default button). A new internal variable $DBLCLICK will however contain the number of the variable associated with the list box that was double-clicked for those who need it. The position of a DBOX can now be specified as CENTER.

The script WINDOW command now has an option allowing you to specify that the Glink window always should stay on top even when not active.

A separate setup screen has been provided for selection of screen fonts. This screen also provides more functionality than was available before.

Printer font setup has also been improved; fonts are selected from a list of available fonts, and you may choose between automatic sizing to fill the page, default size or any fixed size you choose.

Neither of the above improved font setup options are available for those still running on Windows 3.0.

The internal fonts now include a small 6x4 font.

A number of corrections and improvements have been made both to the DKU emulation and to the Ggate line interface.

A script which executes to the end of the script file will now do an automatic RETCALL rather than a RETURN.

The capability to accept incoming calls over raw TCP/IP has been added for the Windows Sockets interface only (this capability is basically for usage with G&R Gmailer gateways but you are welcome to make use of it if you have an application for it).

The GLNET and GLSPX modem servers now support ports other than COM1 and COM2, using the -B and -I command line parameters.

A new DDE poke command PosCur allows positioning of the cursor.

The new PERFORM script command gives direct access to all the internal keyboard functions.

An option has been added to allow suppression of circular tabbing in DKU mode.

An option lets you choose whether VT100 application keypad mode should be applied with or without NumLock.

Two new options, one allowing message-based operation and one enabling use of notification messages, allow the emulator to run without the need to poll the communications interface for input. This can produce (at least apparently) a significant reduction in processor usage when both options are enabled. This only works for interfaces where such notification is available from the comms interface, currently Windows serial port, Windows sockets, and the Atlantis V8 interfaces.

You may specify that the program should terminate automatically if the connection to the host is lost.

A new script command, SET RELINQUISH, provides control over how the script processor allows other tasks to execute while a script is running.

An internal variable $SBKL provides the number of active lines in the scrollback buffer. $IDLE provides the current value of the idle timer, $ROUND supplies the rounding status, and $CASE returns the current case sensitivity. Additionally, $IFILE and $INUMBER provide the file name and number of the currently loaded default icon.

The context save (CXSAVE) and restore (CXRESTORE) commands now also save the current state of script rounding, case sensitivity, and idle timing.

The clipboard with tabs may now be checked from a script using the $CTABS internal variable, and changed with the SET CTABS script command.

Site-specific help may be added by supplying a file GLSITE.HLP in the Glink directory. If this file is present an extra entry will be supplied automatically in the help menu bar item.

The script DEBUG command has been extended to allow specification of user strings for send and receive delimiters.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

What was new in release 5.1.0?

The following new features and corrections have been added since the 5.0.1 release of Glink for Windows (see also: What was new in release 5.0.1):

Emulation of the Questar DKU7107 and DKU7211 terminals is included.

A new communications interface for G&R gateways has been included. Be aware that the setup for this has changed to some extent since the most recent beta version, and small adjustments to your setup may be necessary.

The default placement of the delete character key for VIP7800 and DKU7107 modes is now on the Del key rather than Ctrl/left-arrow. The DEL character will be found on Ctrl/Del for these modes.

An option to suppress the caption has been provided.

A facility for extending the script language using external DLL libraries has been provided.

Conditional compilation of scripts is supported using #IFDEF and associated directives.

The 80-character limit on script variables and patterns has been increased to 255.

New script commands have been added:

ACTIVATE "Window"	Allows you to activate another application window
GETVALUE %n "string"	Allows you to convert from a binary value
GPROFILE %n "File" "Section" "Item"	
	Allows you to collect INI-style options from a file
GWCONNECT %n "gateway address" "host profile"	
	Allows you to make a connection through the G&R gateway
MOVEWINDOW X Y DX DY	
	Moves and/or resizes the emulator window
SECURE options	Allows you to remove access to possibly sensitive data
SET BUTTON HELP n "help text"	
	Sets a help text for a button on the button bar

SET CAPTION { ON | OFF }
> Turns the caption bar on or off

SET INPUT { ENABLE | DISABLE }
> Enables or disables input into the emulator window

SET PROCESS { ON | OFF }
> Specifies whether line input should be processed or not

SET SHARE { COMPATIBILITY | READ | WRITE | RW | EXCLUSIVE }
> Specifies sharing mode for next FOPEN command

SET TCP { TELNET | SNI | NCR | GATEWAY | GWDIWS | GWDSA| RAW }
> Chooses the protocol to use over TCP/IP

SET TOOLBAR BUTTON n icon function
> Sets the function of a button on the toolbar

SET TOOLBAR HELP n "help text"
> Sets the help text for a button on the toolbar

SET TOOLBAR SIZE n Sets the number of buttons on the toolbar

A facility for incorporating bitmaps into dialog boxes has been provided (the bitmaps may either be active or passive).

A large number of internal script variables have been implemented.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

What was new in release 5.0.1?

The following new features and corrections have been added since the 5.0.0 release of Glink for Windows (see also: What was new in release 5.0.0):

New items in the 'help' menu allow you to go directly to the search dialog box to look for keywords, and also access 'help on help'.

A new entry in the 'line' menu has been added for toggling of local mode (this is a requirement for UVTI compatibility).

A new setup dialog allows adjustment of the actual colors used on-screen.

Two new internal script variables, $FPOS(#n) and $FSEEK(#n) provide the line number and absolute byte position in the specified file.

A new script command, FSEEK, allows absolute positioning (rather than by line number) inside a file.

New variants of the SERVER script command allow specification of 'generic' Kermit server commands.

The script ERASE command now accepts wildcards.

Two new button types are available for the script DBOX command, ICON (which allows definition of a passive icon) and IBUTTON (which allows definition of a pushbutton which has a superimposed icon rather than a text).

A new style RETEDIT may be specified for dropdown combo boxes. This style specifies that the contents of the edit control should be returned to the calling script rather than the currently selected item in the list box.

Two new interfaces, ICC and NetBIOS SNA, have been added on an experimental basis and are unsupported options.

To accomodate those used to a different syntax, the optional port number in IP addresses may now be specified using either a colon delimiter or a space delimiter.

Choice of printer is now available as a separate entry in all 'file' menus.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

What was new in release 5.0.0?

The following new features and corrections have been added since the 4.6.3 release of Glink for Windows (see also: What was new in release 4.6.3):

IBM 3270 emulation is provided for use with TN3270.

A subset of Regis graphics is supported when running in VT-xxx modes.

The UVTI is now delivered as part of the standard Glink release.

A facility has been added for setting bookmarks in the scrollback buffer display.

A new script command, DBOX, has been added. This command brings the full power of Windows dialog boxes to your scripts, and allows you to design dialog boxes using almost all the different control types supported by Windows (check boxes, radio buttons, static texts, buttons, list boxes, combo boxes and editable texts).

An optional 'button bar' has been added to the bottom of the emulation window. Buttons are configured using the script BUTTON command and can be associated both with keys on the keyboard and preconfigured or dynamically configured macros.

New SET commands have been added:

SET FONT height width	Allows you to set the font for the emulation window
SET KERMIT LONG ON/OFF	toggles the Allow Long Packets option
SET MENU ON/OFF	turns the menu bar on and off
SET ROUND ON/OFF	controls whether or not fractional numbers should be rounded or truncated in the script language.
SET SCREEN WIDTH n	allows you to set the emulation screen's width anywhere from 40 to 132 columns.
SET STS ON/OFF	turns the status bar on and off
SET TOOLBAR ON/OFF	turns the toolbar on and off
SET WARNINGS ON/OFF	turns warning messages on and off

Double-clicking files in the file display will now use any associations that may have been defined with the file manager.

What's new (5.0)

A new option for the VIP emulation allows you to preserve the roll mode setting even though the application has entered forms mode and returned to text mode.

An additional 'windows-style' status line has been provided at the bottom of the main window, leaving the normal status line to behave more like the status line on the original terminal. This may affect some applications using scripts that rely on reading text from the status line. The new status line may be disabled using an option in the `Settings / Screen / Window attributes` menu.

A pictorial 'toolbar' may now be used instead of (or as well as) the more usual menu items. This can be enabled by selecting the appropriate item in the system menu.

New internal script variables have been added:

$FX	gives the current font size (X) in pixels
$FY	gives the current font size (Y) in pixels
$LASTFILE	gives you the name of the last file you received (or started to receive) with a protocol transfer.
$MSX1	Left coordinate of scrollback mark (0 if none)
$MSX2	Right coordinate of scrollback mark (0 if none)
$MSY1	Top coordinate of scrollback mark (0 if none)
$MSY2	Bottom coordinate of scrollback mark (0 if none)
	(See the RSBK command for example of scrollback mark usage)
$MX1	Left coordinate of screen mark (0 if none)
$MX2	Right coordinate of screen mark (0 if none)
$MY1	Top coordinate of screen mark (0 if none)
$MY2	Bottom coordinate of screen mark (0 if none)
	(See the RSCR command for example of screen mark usage)

The capture delimiter option has been extended so as to allow passing of CR and LF characters transparently to the capture file or print log.

An option to allow automatic tabbing for host data has been added to the VIP setup menu.

Two new communications interface have been implemented, Unisys InfoConnect, and the G&R SPX modem server.

An option has been added to enable compatibility with the ITT Courier and Thomas Box 7760 emulations.

An option has been added to allow configuration of the break key to send an Interrupt Process packet rather than a Break on Telnet interfaces.

For Eastern Europe, support has been added for the ISO 8859-2 (Latin-2) character set. This functionality is automatic if the Latin-2 version of the Glink font file is used in place of the normal font file (contact your agent for details).

For Greek Windows, an optional set of fonts for the standard Greek Windows character set has been included. Again, contact your agent for details.

Support for the public domain Ctl3D DLL from Microsoft has been added. This module affects the appearance of all dialog boxes, giving them a more 'three-dimensional' appearance. Simply place a copy of CTL3D.DLL in your Windows system directory to enable this functionality.

The ADDMENU and BUILDMENU now insert menu items from left to right instead of from right to left.

An additional option has been provided for initial window positioning, which allows you to remember the current position at the end of the session and use the same position for the next session. At the same time the position of the scrollback window is saved. The positioning of the scrollback in relation to the main window has also been generally improved.

Separate font choices are available for 40/80/132 column modes in the Screen/Windows setup menu.

You may choose the initial screen width to be used for each emulation mode.

A separate configuration menu allows association of WAV sound files with events such as file transfers and connection to the host.

An internal command has been added to stop printing and flush any outstanding print output to the printer.

An option to disable use of PAD functionality in the X.25 interfaces has been added.

An option has been added to suppress the use of the small dot to indicate spaces in 7700 variable fields.

An option has been added to limit cursor movement inside VIP7700 forms.

What's new (5.0)

A new internal script variable, $SCAN, provides the offset into a string when the SCAN script command is used.

The depth of the internal script stack has been increased from 10 to 20 levels.

Double-clicking may be used to mark single words in the main emulator and scrollback windows. You may also choose whether marking is to be done with rectangular or line-oriented marks.

The external GLDNTD program for standalone DNTD has been given a command line option to choose which interrupt should be used.

The FOPEN command now accepts IO as a parameter to specify input-output mode.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

In this release, support has been added for multilingual help files. These follow the same rules as the other multilingual files, in other words you supply additional help files GLHLPx.HLP for the language keys x you wish to support.

What was new in release 4.6.3

The following new features and corrections have been added since the 4.6.2 release of Glink for Windows (see also: What was new in release 4.6.2):

An additional input mode for script files, EXCLUSIVE, allows for specification of exclusive use when opening files with FOPEN.

A new script command MBAR allows specific enable and disable of all options in Glink menus.

A new script command INCLUDE allows you to share script source code between modules and avoid the 63Kb source limitation without resorting to using the CALL statement.

A new script command RSBK has been added to allow reading of data from the scrollback buffer in the same way that RSCR can read data from the emulator screen.

A command line option (/DDE name) has been added to specify the name to be used for DDE operations.

A new option in the printer setup menu for direct printing allows for translation of high ASCII characters to either the PC or HP Roman character sets.

A new script command MCURSOR allows selection of the mouse cursor shape from a script.

New script commands SET <feature> ENABLE/DISABLE allow control of use of emulator features such as connect, disconnect, file transfer, break and terminate.

A new script command LOG allows you to control print logging from a script.

A new script command SET DOSSHOW allows you to decide how a program started with the DOS command will be displayed.

If a script FOPEN command fails, the script will no longer be aborted. Instead, the OK status will be updated.

An experimental EDIT option has been added for VIP TEXT and TX-RET modes.

Marking of text from the keyboard is now supported.

What's new (4.6.3)

Internal variables $STX and $STY have been added to the script language returning the X and Y coordinates of the start of transmission pointer (VIP7700 and VIP7800 modes only). A new variable $LINE contains the contents of the current screen line, and $LNNO allows you to collect the number of the current line in the source script for debugging purposes.

The maximum number of macros has been extended to 64. The maximum length of a single macro has at the same time been extended to 255 characters. There is still however a limitation of 650 characters total for all macros.

Synchronous cards are now supported.

Typeahead mode is now supported.

The script DELMENU command now uses an additional parameter to specify the name of the menu to be deleted.

The script SET DECIMAL command allows you to determine the action of the 'decimal' key on the numeric keypad.

The script SET CASE command allows you to specify whether comparisons made in scripts are to be case sensitive.

Escape sequences have been added both to the standard ANSI set and to the command extensions to provide control over the number of lines to display on-screen.

Command extensions have been added to provide emulation-mode independent control of printing, and also enquiry as to which emulation is running.

The script INFILE command now provides a file selection button in the dialog box.

Keyboard and layout files may now reside in the user directory as well as the Glink directory. Both directories will be searched, the user directory first.

The PC-NFS/RTM interface now uses the TKLIB.DLL supplied with PC-NFS 4.0 and better rather than interface directly to the RTM module. This means that users of PC-NFS 3.0 and/or 3.5 must use the GLNFS resident program. Use of the TKLIB.DLL reduces conflicts between different Glink windows and not least conflicts between Glink and DOS-based PC-NFS tools running in enhanced-mode windows.

The setting for printing of underlines in VIP mode now defaults to ON.

The script BUILDMENU command allows you to add further entries to the menu bar and also to provide submenus in such menus.

The script DCHANGE command allows modification of selected fields in the dial directory from a script.

The script ICON command allows you to choose which icon should be displayed when Glink is minimized.

The quality of print output is now selectable between default, draft and proof modes.

The script GETDATE command can now produce ordinal and Julian dates.

The environment variable GLWIN is no longer used - the Glink directory is now set to the directory from which the Glink program is loaded.

A script command PLAY has been added to allow playing of waveform files from a Glink script.

In the Windows version, all script limits are automatically set to their maximum values. The corresponding items in the general setup menu have therefore been removed.

An installation procedure to install to harddisk from a diskette has now been implemented.

A new network interface, the DNTD SPX Gateway has been added. This provides the same functionality as the previous gateway interface but uses SPX rather than NetBIOS.

The script SERVER command allows you to terminate a dialog with a Kermit server.

The script MD and RD commands allow you to create and delete DOS directories without having to invoke COMMAND.COM.

All currently known errors have been corrected. This includes several errors with the GlinkBinary DDE transfer format which should now function correctly.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

What was new in 4.6.2?

The following new features and corrections were added in Glink 4.6.2:

Drag and drop of file names has been implemented for Windows 3.1. Any script may be dropped into the main window. Other files dropped into the main window will attempt to invoke DRAGDROP.SCR as a script; if it's found then the file name will be delivered in the $FILE variable (if there are several names then a file containing the names will be delivered using a @ prefix in the same way as for the PICK command). File names may also be dropped into those Glink dialog boxes that are asking for filenames.

Filename enquiries now use generic Windows 3.1 common dialog boxes when Glink is run under 3.1.

Support has been added for Novell's Lan Workplace software, using sockets directly rather than requiring the TelApi program.

Support has been added for FTP PC/TCP for Windows, using PCTCPAPI.DLL for access to TCP/IP.

Support has been added for the Windows socket API interface, using WINSOCK.DLL for generic access to socket libraries.

Support has been added for the Case 6500 TCP/IP interface.

Support has been added for Wollongong TCP/IP using their SOCKDOS.DLL rather than loading GLWOL.EXE outside of Windows.

Support has been added for 3+Open Sockets using WSOCKETS.DLL for access rather than direct access to the TSR routines outside Windows (these must however still be loaded).

Support has been added for DEC Terminal Access using TRMNLAXS.DLL for access either to CTERM or DEC LAT based communications.

Support has been added for PC-NFS release 4.0 using the Sun RTM.EXE program for TCP/IP services rather than GLNFS.EXE as used in earlier versions of the PC-NFS software.

Support has been added for multiple-language versions.

Script commands for DDE client operation have been implemented.

A script command, ADDMENU has been added which allows definition of a user menu bar popup menu to start selected script procedures.

A script command, MFONT has been added allowing selection of the font to be used in user menus.

A script command WINDOW has been added allowing control of the way in which the main window is displayed.

An internal script variable $WINDOW lets you know whether the current state of the Glink window is normal (0), maximized (1) or minimized (2).

The line buffer display feature has been enabled for all communications interfaces.

Format with tabs is now an option in the scrollback edit menu as well as in the main window.

A new script command SET IDLE n sets an inactivity time to be applied after all receives.

Two new script commands SET CAPS and SET NUMLOCK have been added to allow toggling of these from a script.

Better support for SCO ANSI has been added to the ANSI emulation.

A host transfer command configuration option has been added (mostly for FTRAN users). This option is also available using SET TRANSFER COMMAND "command" in a script.

Script compatibility between the DOS and Windows versions has been further enhanced.

Attributes used for screen erasing in ANSI mode are now selectable between using the current screen attribute and the default attributes.

An internal version of the Zmodem protocol has been implemented, allowing usage of Zmodem on all interfaces supported by Glink. The level of functionality is lower than that provided by the DSZ program but should be sufficient for most practical purposes. Those who wish to continue using the external protocol are at liberty to do so.

Additional DDE pokes are available, VduEmu, ScrGput and Xabort. VduEmu is similar to VduPut except that the data is treated in the same way as line data rather than keyboard data. ScrGput sets the global script variable rather than the local one. Xabort will abort any file transfer or dial operation currently in progress.

What's new (4.6.2)

Additional DDE requests are available, ScrGget collects the global script parameter rather than the local version delivered by ScrGet. VduFld <n> delivers the contents of field number <n> on the current form (if <n> is not specified then the field in which the cursor is positioned will be delivered).

The DDE LinXmt command has been extended to allow sending of data and a terminator in the same call.

A new clipboard format, GlinkBinary, available only for DDE usage, allows transparent transfer of data without the need for CRLF padding and allowing embedding of ASCII NULs.

A new script command, MOK, has been added. This allows inclusion of an OK button in a script menu that otherwise consists only of text.

A script command FLOC allows you to extract the current line number in a text file.

You may now set up a configuration with no communications interface defined.

The GLLAY and GLKEY programs delivered with the Windows version of Glink now default to GLWINL.DEF and GLWINK.DEF for their filenames.

A script command CONFIG SAVE allows a script to save the current configuration.

Locking of separate options is now supported in the configuration dialog boxes.

A new internal script variable, $TITLE, allows you to extract the current window title as set with the TITLE command.

Reading the status line using the script RSCR command may be done using a line number of zero.

Automatic execution of a termination script has been provided for to allow programming of an orderly exit from the program without the need to run a script permanently in background.

All currently known errors have been corrected.

Some dialog boxes and menus have been changed and will need to be retranslated if you are providing a foreign language version. A list is provided in this help file for your convenience.

Notes for users of Glink/DOS

If you have previously been using the DOS version of Glink, you will be pleased to hear that every effort has been made to ensure compatibility between your old Glink setup and your Glink for Windows setup. In particular, you may use your old configuration file as a basis for your Windows configuration, your old dial directory, your script files, and any tailormade keyboard files you may have been using.

File names

File names have changed from GLINK/DOS.

xxx.glinkconfig   Config file

GLWINK.xxx   Keyboard file

xxx.glinklayout   Layout file

Configuration files

The format of the configuration file is 100% compatible between the DOS and Windows versions. To use your DOS configuration file, copy the GLINK.CNF file from your DOS Glink to the Glink for Windows directory, renaming it to DEF.glinkconfig as you do so. For example:

COPY C:\GL\GLINK.CNF C:\GLWIN\DEF.glinkconfig

Dial directory

This again is entirely compatible, and uses the same file name (GLINK.PHO). The only slight difference will be seen if you use high-ASCII national characters in the host name and/or comments fields, in which case the different character set used by Windows will be apparent.

Environment variables

There is no option corresponding to 'SET GLINK=....'. Glink for Windows will always set the Glink directory to the directory from which the program is loaded. The option corresponding to 'SET GLOPT=...' is 'SET GLWINOPT=...'; all parameters are accepted in the same way as for the DOS version even if not relevant to the Windows version. Parameters may be defined on the command line you enter when installing if you prefer

Keyboard files

A special note on character sets: the Windows version uses the Windows native character set and this will mean that any keyboard files you have will be incorrect in relation to high ASCII characters. The keyboard files included with the software are however correct in relation to the Windows character set.

Script files

Although there are some minor differences between the DOS and Windows interpretation of some of the script commands, you will find that 99% of your scripts will run with no modification. If you have been using high ASCII characters, then note that Glink for Windows expects these to use the Windows character set. The special keyword OEM may be included at the start of the script file to indicate that the script is using the PC character set, however. (the DOS version of GLINK will ignore this keyword).