GCP++ TCP/IP SDK for Windows (C/C++/WINSOCK Edition)

The GCP++ SDK is unique to the industry because it includes the GCP Server application that links to the Windows Sockets interface. The GCP Server encapsulates proven socket library code, control structures, buffering, application protocols and error recovery so developers ***start*** with robust TCP/IP code. Within the GCP Server, TCP and UDP sessions provide basic buffered transport. The TELNET session adds TELNET option/sub-option processing and the TFTP session encapsulates complete file transfers. Daemon support is included.

The C/C++/WINSOCK Edition provides a DLL interface to the GCP Server for rapid prototyping, and also includes complete development support for writing directly to the Windows Sockets version 1.1 interface. If the GCP Server is chosen as run-time support for your completed application, an Unlimited Run-time license is available. NO ROYALTIES!

Overview

Writing Windows applications to the Windows Sockets specification requires an understanding of both the specification and the behavior of data communication streams & datagrams. Because of this prerequisite, Dart Communications has found that the design/code/test of the network interface can easily exceed hundreds of hours with sub-optimal results.

Managers recognize this development cost and risk and are turning to embedded components like GCP++. GCP++ is being now being used for on-line transaction processing, remote database access, terminal emulation, custom cooperating applications, file transfer, and server applications.

The **GCP++ TCP/IP SDK for Windows (C/C++/WINSOCK Edition)** provides a complete set of tools to develop TCP/IP applications using either Windows Sockets or the GCP Server interface.

Operating Environment

Windows 3.1, Windows for Workgroups 3.1/3.11, or Windows NT.

The GCP Server dynamically binds to any Windows Sockets version 1.1 compliant transport. Microsoft, Lanera, NetManage, Wollongong, Novell, FTP Software, Distinct, Frontier Technologies and others supply this functionality.

Support

Dart Communications provides a money-back guarantee and free installation support for 30 days. A one-year software maintenance support package is also available, and is recommended if you are distributing the GCP server as run-time support for your app. Consulting services are offered.

Installation

Completely automatic. A program manager group is created and populated with icons.

Licensing Policy

The C/C++/WINSOCK Edition includes a complete set of C/C++ interfaces to WINSOCK and the GCP Server, including a single-user GCP Server development & test license. Users prototype using the GCP Server, and only purchase the GCP Server Unlimited Run-time License if needed. The GCP Server Unlimited Run-time License gives the purchaser an unencumbered right to copy and distribute the GCP Server with his product as run-time support.

Sample Applications

The C/C++/WINSOCK Edition includes public domain WINSOCK applications, C++ Classes, and a sample GCP Client application that can be used to exercise the GCP Server (all source code is included).

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Why consider the GCP Server alternative?

- **embedded TCP/IP protocol code speeds development!**

  Use Dart's **GCPopen()**, **GCPdispatch()**, and **GCPclose()** API to create, control, and close sessions using functions designed for the protocol being used...no communications software design required!

  All GCP sessions are provided on a per-protocol basis, eliminating the need for establishing desired functionality through the use of Windows Sockets parameters and application-level protocol development. GCP++ is a productivity tool that greatly reduces development cost and risk by providing "turn-key" code for the protocols listed below. Of course, the programmer can also use the basic TCP and UDP sessions for implementing additional application-level protocols. Also, many stacks operate partially as a TSR, making them intolerant of application failures; they require a system re-boot if the application fails. GCP++ provides an "owner" application that does not fail, saving re-boot time during development.

- **GCP TCP/IP Server reduces your maintenance and product support costs!**

  GCP has been tested on numerous Windows Sockets stacks: Distinct, NetManage, Novell, Lanera, Wollongong, Windows for Workgroups, Windows NT, Frontier Technologies and FTP Software. With interoperability already established, you are relieved of the testing burden if you were to write directly to the Windows Socket interface, thereby reducing your product support costs.

  In addition, our very affordable maintenance contract ensures that Dart Communications continues to support your product as your customers use it over future Windows Sockets kernel implementations.

- **GCP client/server architecture enhances your product reliability!**

  Other vendors provide library interfaces to network protocols that bind the communications protocol stack to your task. Consequently, GPFs in the communications code (caused by you or by a faulty kernel) show up as an error in your application. By using the GCP server, GPFs in the communications code shows up as a GCP error. This "un-coupling" of your application from the communications code provides for improved reliability during the entire life-cycle of your product.

GCP Session Overview

- **TCP (Active and Passive Connections)**

  Provides reliable asynchronous stream communications to any host. Large outbound structures are buffered down to the protocol stack so you don't have to!

- **UDP (Datagram)**

  Provides datagram communications to any host. Buffering is provided.

- **TELNET (Active and Passive Connections)**

  Provides reliable asynchronous TELNET communications to any host. Buffering is provided. TELNET options and sub-options are supported so you don't have to parse the input stream!

- **TFTP (Client and Server)**

  Provides for file transfers to/from any TFTP host.

Evaluating alternative TCP/IP SDK's

Having requested information on the **GCP++ TCP/IP SDK for Windows**, you are probably evaluating it against other vendors. Fair enough. These are some of the questions you should ask:

1. How many development hours can your SDK save me? The GCP++ DLL interface can be integrated in one day (if you only have minutes, however, just try our Visual Basic Custom Controls!). Testing is minimal! *Compare that to the WINSOCK interface!*

2. Will I get the support I need now and in the future? GCP++ was introduced in July 1992, and has been providing continuous support to customers since that time. Customers have access to the GCP++ developer for demanding technical questions. The "GCP++ Developers Forum" is a mailing list where GCP++ customers can share experiences and get expert advice (baldwin@SUNYIT.edu). Consulting support is available if you need it. Customs apps will be developed to your specification. *Ask the kernel vendors how much development support they can provide you!*

3. How robust is your encapsulated code? Dart Communications uses the GCP Server for all its windows networking applications, taking advantage of optimized, robust asynchronous code. Compare that to other libraries and VB Controls that use blocking synchronous calls (because they are easier to code) that capture your programming thread. *Beware of "minimal" solutions that break-down when you try to send 8000 bytes over the TCP connection.*

4. Do you have rapid-prototyping tools? The C/C++/WINSOCK Edition provides the GCP Server interface at no charge! You can use it to prototype your application first, then port to WINSOCK later. *Only pay for the GCP Server Run-time license if you need it!*

5. What is your migration strategy to Windows NT? Dart Communications currently provides a WIN16 interface to all its products. These products have been tested under Windows NT and work as-is. As Windows NT becomes more popular Dart Communications will be porting tools to WIN32.

6. Are your VB Controls easy to use? Dart Communications designed their VB Controls with a minimum of properties, making maximum use of event handlers. For example, all controls have an "OnInput (Buffer As String, Error As Integer)" event, localizing the input data to an event handler so there is no confusion about when received data is available for reading.

7. How do you support portability? You want your apps to run on any WINSOCK-compliant kernel, but you cannot reasonably test on them all. Dart Communications has tested the GCP Server on numerous stacks so you don't have to. *Just ask any kernel vendor which stack they do all their testing on!*

The bottom line...

Our strategy for success is to help you succeed. Select Dart Communications as your vendor because **GCP++**:

- will minimize your development risk when compared to other SDK's
- offers great flexibility and value for many different TCP/IP applications
- ***maximizes your chances for a successful development!***

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