
VAPS CCG Lite 6.4.4

Overview

VAPS Developer Rehost

VAPS CCG Lite technology allows the user to rapidly produce executables that have been optimized for minimal memory footprint; minimal initialization time and maximum screen refresh rate. CCG Lite applications can be ported to any hardware platform, graphics library, as well as any COTS or proprietary Real-Time Operating Systems (RTOS) using the VAPS Rehost toolkit.

VAPS CCG Lite

CCG Lite (C Code Generator) is a code generation tool that automatically translates graphical Human-Machine Interfaces (HMI), designed with VAPS, into fully functional production quality ANSI C code. The generated ANSI C code contains all HMI appearance and functionality; including graphics, animation properties, interactive behavior and connections to the user's applications. This code can be integrated with the most sophisticated software environments, including real-time kernels, X/Motif GUI builders, databases and Defense models.

CCG Lite creates embedded executables in a wide variety of target platforms.

CCG Lite for Windows is a powerful product used to deploy interactive, graphical dynamic HMIs on PCs. With CCG Lite for Windows, the ANSI C code generated from HMIs produced by the VAPS/Developer or VAPS/Rehost products, can be compiled and linked into stand-alone, executable applications for your Windows environment.

CCG Lite for Embedded Systems is a powerful software tool used to rehost interactive, graphical, dynamic HMIs to embedded systems. With CCG Lite for Embedded Systems, the ANSI C code generated from HMIs produced by the VAPS/Developer or VAPS/Rehost products, can be compiled and linked into stand-alone, executable applications which run on your choice of embedded environments.

Benefits of Using CCG Lite

- Automatic code generation of ANSI-C code for application graphics, behavior, logic
- Creation of makefile
- Automatic compilation and linking of makefile, sample main program, VAPS libraries and generated application code to produce a stand-alone and portable executable application
- Portability ANSI-C code may be recompiled with target-specific libraries on workstations and embedded targets
- Generated code is consistent, debugged and commented with optimization and customization

CCG Lite has been optimized to provide:

- Reduced generated code size
- Reduced frame loading time
- Reduced runtime transformations and increased drawing speed

Features:

- World coordinates clipping option
 - Smaller raster code generation
 - Floating point line-width
 - Haloing & outlining
 - Load frame plug
 - Specifiable number of sides for circle, arc, fillet
- Multi-font Input / Output fields
 - Proportional vector fonts
 - Pixel-based justification
 - Unicode support
 - Plot object

System Requirements

VAPS CCG-Lite deployment toolkits development system requirements

- Windows 7 or Windows 10

Target software requirements

- C-callable graphics libraries for the target graphics environment
- Choice of communications, if needed, e.g. TCP/IP, UDP/IP and shared memory
- Choice of cross-development toolsets
- C Compiler

Target system requirements

- 32- or 64-bit processor
- Choice of bus
- Choice of double-buffered graphics environment
- Deploy Choice of real-time operating system

Platform	MS Windows
Hardware	<ul style="list-style-type: none">• x86 CPU• network adapter (Ethernet card or WiFi)
Software	<ul style="list-style-type: none">• Microsoft Windows 7 & Microsoft Windows 10• Microsoft Visual C++ 2013 or 2015 compiler• TCP/IP• VAPS 6.4.4
Memory	<ul style="list-style-type: none">• 64 MB (minimum)• 64 MB swap space (recommended)• 40 MB disk space for CCG Lite• 35 MB disk space for examples

Target Development Platform

- A 32-bit or 64-bit ANSI C compiler or cross-development toolkit.
- CCG Lite code compiles correctly with the Microsoft Visual Studio 2013 compiler, and will compile correctly with any other C++ compiler. For further requirements, see the documentation for your third-party compiler or cross-development toolkit.
- The compiler must also be capable of handling long file names for both source files and headers.

Target Platform

- Only 32-bit and 64-bit architectures are supported. (The hard requirement is that C pointer variables must be 32 bits in size.)
- A floating point coprocessor is recommended. Alternatively, a floating point library implemented in software or the built-in fixed point solution could be used.
- Minimum memory requirements are hard to define across all possible platforms and executable formats. The size of a cross-developed executable file is not directly representative of its memory footprint in the target system. The size of the executable file may be almost an order of magnitude larger than the actual code executing in the target system.
- A display with square pixels is recommended to avoid problems associated with non-square pixels.
- Immediate-mode graphics drawing is recommended (i.e., it is preferable to use graphics commands to draw lines, polygons, etc., rather than editing display lists). The OpenGL-style of display lists supported by CCG Lite does not allow display lists to be edited.