



# Specifications

## VSI/Pro® Availability

Architecture	Operating System	Availability	Functionality
G4/Altivec™/e600	VxWorks® 5.5 & 6.7	Now	Optimized core profile & image functions
G4/Altivec	LynxOS™ 4	Now	Optimized core profile & image functions
G4/Altivec	Linux	Now	Optimized core profile & image functions
G4/Altivec	Mac OS X	Now	Optimized core profile & image functions
G5/Altivec	Linux	Now	Optimized core plus profile
G5/Altivec	Mac OS X	Now	Optimized core plus profile
x86	Linux	Now	Optimized core plus profile
x86	LynxOS 4	Now	Optimized core plus profile
x86-64	Linux	Now	Optimized core plus profile

## PRODUCT OVERVIEW

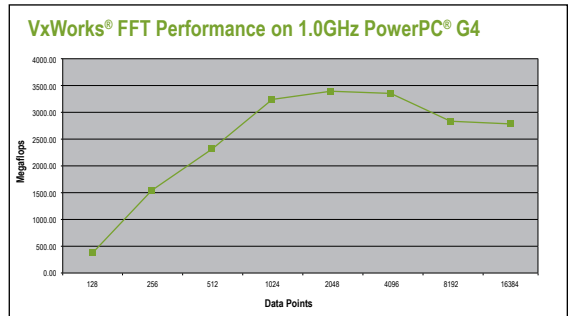
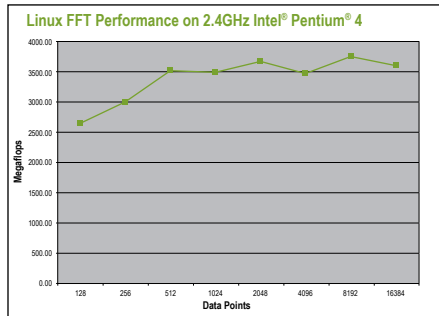
VSI/Pro® is the premier math and signal processing library from RunTime Computing Solutions®. VSI/Pro is fully compliant with the VSIPL (Vector, Signal, and Image Processing Library) standard, as set forth by the VSIPL Forum ([www.vsipl.org](http://www.vsipl.org)). VSIPL is an open standard that provides an API (Application Programming Interface) to a library of scalar, vector, linear algebra, matrix and signal processing functions (FFT, Window, Filter and Convolution) targeted towards high performance embedded systems.

VSI/Pro is optimized to take advantage of single-instruction, multi-data (SIMD) operations on the processors that support Altivec™ and SSE. These are the popular G4, G5, Intel® Xeon® and AMD Opteron™ processors that are common to both embedded and cluster computing environments. VSI/Pro provides a portable, open-standard, high performance out-of-the-box solution that accelerates the development of signal and image processing applications and virtually eliminates the complexities of hand tuning for specific hardware/operating system configurations.

The library supports a wide range of signal processing and linear system functions including 1D, 2D and 3D FFTs, 1-D and 2-D convolutions and correlations, both FIR and IIR filters and windowing functions (Hanning, Chebyshev, Blackman and Kaiser).

VSI/Pro provides excellent performance optimization for the complete range of DSP applications on PowerPC®/Altivec (both G4 and G5) and x86/SSE architectures (both 32-bit and 64-bit). As a rule of thumb, our highly optimized SIMD (Altivec/SSE) implementations provide a factor of six to eight times performance boost compared to non-SIMD implementations.

VSI/Pro supports the following operating systems on the G4 processor: VxWorks, LynxOS™ 4, Linux, Mac OS X and OSE. On the latest G5/PPC970 based systems, both Mac OS X and Linux are supported. In addition, libraries are available for both Linux and LynxOS 4 on x86-64.



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Versions with image processing functions support the entire VSIPL proposed image processing standard.

To learn more about these products, please contact a sales representative via email at [sales@runtimecomputing.com](mailto:sales@runtimecomputing.com) or call 205-314-3595.

