

VSI/Pro[®] Image

HIGHLY OPTIMIZED MATH AND SIGNAL PROCESSING LIBRARY



FEATURES AT A GLANCE

Comprehensive range of signal processing and linear algebra functions

Optimization for the hardware platform provides "out of the box" productivity

Comprehensive debug mode of the library speeds application development

Open-standard API makes the development and long-term use of in-house algorithm libraries possible

PRODUCT OVERVIEW

VSI/Pro® Image from Verari Systems Software® is standards-based high performance image processing library that has been optimized to take advantage of vectorized floating point math registers on G4, G5, P4, Intel® Xeon® and AMD Opteron™ processors. VSI/Pro Image is based on the image processing section of the VSIPL standard. The VSIPL forum, a community standards group, developed this standard, which is an acronym for vector, signal, and image processing library. VSI/Pro Image provides advanced image processing plus some basic 1-D signal processing capabilities.

The VSIPL Standard API (Application Programmer's Interface) consolidated and streamlined several existing mathematical libraries and created a standardized system of objects and functions for scientific and engineering computing. Verari Systems Software, the leading middleware developer for high performance computing, is an active member of the VSIPL Forum.

VSIPL's Image Processing API has been designed for optimal performance whether the target application is for an embedded platform, a workstation, or a cluster. Some important features of the VSIPL Image API include lowering the development costs for embedded systems by performing optimization "under the hood" and reducing the binary executable size. It also provides great programming flexibility through carefully designed abstract data types as well as providing portability for various kinds of embedded systems.

Continued under Specifications

CONFIGURATION AND PRICING

Verari Systems supports multiple configurations and pricing varies per solution. If you have questions about configuring a high performance enterprise or supercomputing solution, please contact us today at (888) 942-3800 and ask to speak with a Verari Systems Account Manager.

ABOUT VERARI SYSTEMS

Verari Systems, Inc. is the premier developer of energy efficient data center and desktop consolidation platforms utilizing independent blade-based compute and storage solutions that are defining a new era in the green data center. Verari Systems is a market leader in blade storage and energy efficient platforms. Organizations such as Wachovia, Akamai, Microsoft, Qualcomm, CCGVeritas, Harris, Lockheed Martin, Northrop Grumman, and Sony Imageworks, as well as top universities and research institutions worldwide, are among the customers who have chosen Verari Systems' line of award-winning high density blade storage and servers, rack-optimized platforms and software solutions.

Specifications

Continued from Product Overview

VSI/Pro Image currently provides the functionality covered by the VSIPL Image Processing API (Version 0.2), and the VSI/Pro CoreLite library, which contains the basic building blocks for signal and vector processing and highly optimized FFT/Convolution/Correlation operations. VSI/Pro Image also offers extended functionalities to better exploit legacy code whenever possible, and better transition from legacy code to compliance with the VSIPL standard.

VSI/Pro Image provides excellent performance optimization for different kinds of image processing applications on PowerPC®/AltiVec™ architectures. For example, for 2D Fir filter operations, at a size of 3136 x 3136, VSI/Pro Image achieves 4993.7 MOPS on an 800 MHz G4 machine. In general, VSI/Pro Image's highly optimized AltiVec implementation provides up to a factor of 20 – 30 times performance boost compared to non-AltiVec

implementations. Also, the integrated VSI/Pro CoreLite library enables the developer to exploit the computationally intensive signal and vector processing kernels. For example, at size 1K and 2K, its FFT functions can achieve at 1.58GFlops on a 400MHz G4 machine.

Verari Systems Software also provides other Signal/Vector/Image/Linear Algebra libraries for the developer who wants to exploit every cycle and bit of their hardware. Verari Systems Software's mathematical library flagship, the VSI/Pro CoreLite and Core release, provides the cutting edge performance on PowerPC architecture, the well-done portability on different embedded systems and the smart APIs for being compliant to the VSIPL standard, which is a well developed and recognized research effort in the DoD community. On the PowerPC platform, VSI/Pro Image supports VxWorks and Linux.

FEATURES

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VSI/Pro® Image Availability

Architecture	Operating System	Availability
G4/AltiVec™	VxWorks®	Now
G4/AltiVec	Linux	Now
G4/AltiVec	Mac OS X	TBA
G4/AltiVec	MC/OE® RACE	TBA
G5/AltiVec	Linux	TBA
G5/AltiVec	Mac OS X	TBA
Intel® Pentium® 4	Linux	TBA
AMD Opteron™ 64-bit	Linux	TBA



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