DADiSP / VectorXL

Vector Math Acceleration Module

Dadisp/VectorXL Accelerates vector math Computations by using the Math Kernal Library from Intel. Speed Improvementsby 20% to 60% are common.

The MKL Library provides highly optimized vector routines based on the VML Vector Math Library. The algorithms are specificallytuned to Intel processors to provide outstanding performance.

Simply Install Dadisp/VectorXL and any routine that employs a supported vector math function or operation automatically benefits from accelerated computation.

KEY FEATURES

- Simple Deployment- Just install and run

- 20% to 60% Speed Improvements and Optimized Performance on Intel Processors

- Multi-threaded Execution for even faster Execution on Multi-Core Systems

- Speeds up any Vector Math based Aalysis
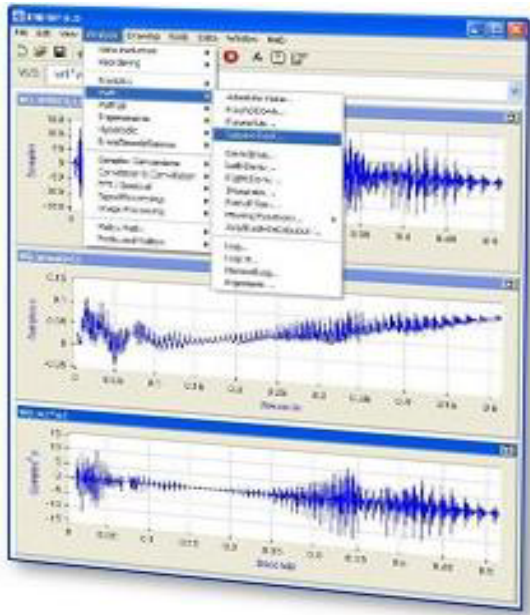
Vector Acceleration Module

A vector or data series is a basic data type important to many technical data analysis applications, including signal processing, medical, geophysical, acoustic, statistics and many more.

Vector math operations include adding, subtracting, multiplying and dividing one series by another as well as computationally expensive operations such as trigonometric, hyperbolic and power functions. These are the core mathematical functions for almost any series based analysis.
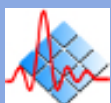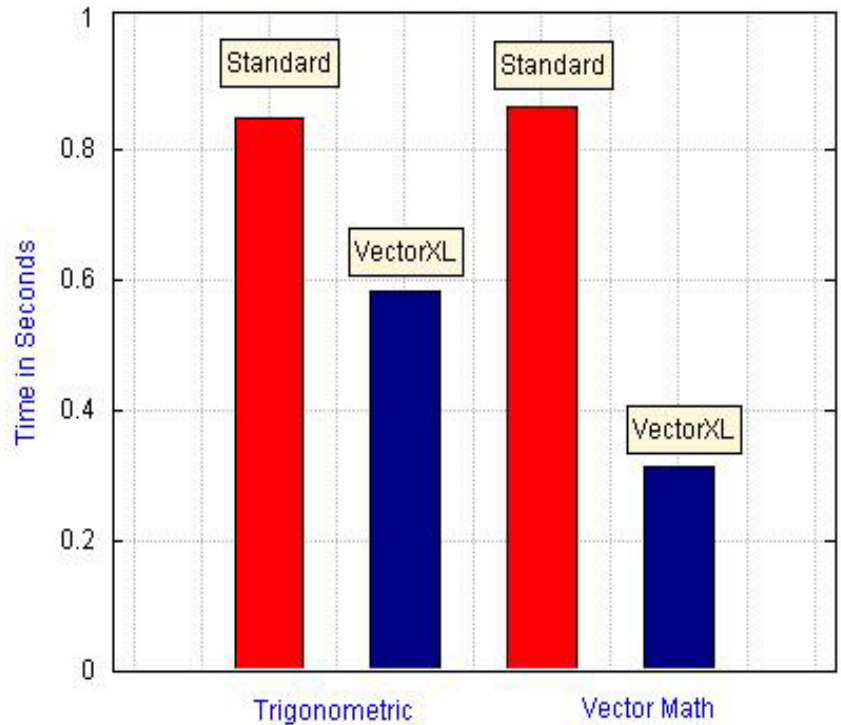
The VML Library

VML, Vector Math Library, is a set of highly optimized vector computation functions supported by the Intel Math Kernel Library, MKL. The VectorXL Module is based on VML to automatically take advantage of the latest instruction sets, parallelism, and algorithms to provide outstanding performance on Intel based processors. Performance gains of 20% to 60% over the standard built-in vector math functions are acheived.

1048576 Point Series Computation

Ready to Use

VectorXL is completely automatic, simply install the module and vector math functions immediately run faster - no settings to change, no code to rewrite. In addition to core math routines, any custom or built-in function that relies on vector processing experiences the same performance gain.

VectorXL is a straightforward way to accelerate any vector math based computations and is the perfect complement to DADiSP/FFTXL, the FFT Acceleration Module and DADiSP/MatrixXL, the Matrix Acceleration Module. Or for the most cost effective solution to speeding up nearly any numeric calculation, see the DADiSP/ProPac module that combines all three accelerators into a single, highly optimized numeric computation engine to provide some of the most efficient technical data analysis routines available today.

DSP Development Corporation

Requirements

DADiSP/VectorXL requires DADiSP 6.5 B05 or higher. Contact us for information about updating your current version of DADiSP.

VectorXL Vector Math Acceleration Module

VectorXL automatically accelerates vector math computations and operations. In addition, custom or built-in routines that make use of vector calculations experience significant speed improvements.

Below is a list of routines provided by DADiSP that benefit directly from the VectorXL Module.

Vector Operations and Functions

+	Vector Add
-	Vector Subtract
*	Vector Multiply
/	Vector Divide
^	Vector Power
acos	Inverse Cosine
acosh	Inverse Hyperbolic Cosine
asin	Inverse Sine
asinh	Inverse Hyperbolic Sine
atan	Inverse Tangent
atanh	Inverse Hyperbolic Tangent
cos	Cosine
cosh	Hyperbolic Cosine
sin	Sine
sinh	Hyperbolic Sine
tan	Tangent
tanh	Hyperbolic Tangent
abs	Absolute Value
ceil	Ceiling
exp	Exponential
floor	Floor
log	Natural Log
log10	Log Base 10
sqrt	Square Root