Verasonics Announces Acquisition SDK Programming Model on Vantage® *NXT* Research Ultrasound System

Software Update: Now Available for Vantage NXT System Customers

Verasonics has announced to customers its latest Vantage NXT software release (ver. 2.0). This software release is now available for download via customer folders, providing access to updated features and options.

Acquisition SDK Programming Model

Verasonics has introduced the **Acquisition SDK Programming Model (Acquisition SDK)**, a C-based API, that allows Vantage® *NXT* Research Ultrasound System users to program their system without MATLAB® dependencies. The Acquisition SDK Programming Model, which is comprised of a C-API, example code, and documentation, offers users similar data structures and naming conventions to those of the MATLAB Programming Model to simplify the porting of existing sequences to the Acquisition SDK environment. The Acquisition SDK is an ideal complement for users who aim to develop applications intended for commercialization or for integration of their legacy or third-party software to run on the Vantage *NXT* Platform.

The Acquisition SDK is available for purchase and can be run on systems using the latest Vantage *NXT* software release (ver. 2.0), now in customer folders.

Complementary Programming Models Increase User Productivity & Performance

Verasonics' novel and highly flexible sequence-based MATLAB Programming Model was initially introduced in 2007 and has been expanded over the years to increase support for new ultrasound research applications. Today, it remains the gold standard in research ultrasound programming, allowing users to rapidly prototype new ultrasound applications. Verasonics' MATLAB Programming Model provides several advantages:

- Leverage the flexibility of Verasonics' native image reconstruction
- Develop custom processing functions written in other programming languages
- Use Verasonics' extensive set of example scripts, VSX GUI display, Verasonics Research Ultrasound Simulator, built-in Help System and several other Verasonics-developed utilities and toolboxes
- Utilize MATLAB's built-in tools and capabilities

The new Acquisition SDK Programming Model provides Vantage *NXT* users with the option to implement their sequences and algorithms prototyped in MATLAB to achieve increased performance in a variety of ways:

- Optimize code to run more efficiently without MATLAB dependencies
- Develop software using other programming languages
- Develop their own GUIs in environments outside of MATLAB

Users may also choose to skip prototyping in MATLAB, moving directly to the Acquisition SDK Programming Model to develop their own image reconstruction, processing and display functions.

Acquisition SDK and GPU Compatibility

For users wishing to accelerate their computations with one or more GPU's, Acquisition SDK offers full support for NVIDIA hardware. This SDK has been designed to allow the user to allocate memory on either the host computer or GPU device with the additional option of using NVIDIA's Unified memory option. Furthermore, for applications where the acquired RF data is intended to be processed immediately on the GPU, the Acquisition SDK is compatible with the GPU Toolkit with GPU Direct Option (for Linux OS only).

Product Development and Commercial Organizations

Since its inception, Verasonics has been working with commercial companies to build clinical ultrasound products based on Verasonics' technology. Until the Acquisition SDK, commercial licensees have either compiled their MATLAB code using the MATLAB Compiler or modified Verasonics' source code to remove MATLAB dependencies for their products.

With the Acquisition SDK, commercial companies not interested in using compiled MATLAB code can now develop applications without MATLAB dependencies, thus further reducing development costs and time to market.

An Ecosystem for Third-Party Software

Many Verasonics customers have developed legacy software applications, which were challenging to integrate with Verasonics' research ultrasound systems through the MATLAB

Programming Model. The Acquisition SDK's stable C-based API makes it easier for users to interface their software applications to program the Vantage *NXT* Acquisition Hardware and also opens the possibility for customers, as well as independent software development companies, to develop new applications for use on Vantage *NXT*.

Additional Acquisition SDK capabilities are planned in upcoming 2025 Vantage *NXT* software releases.
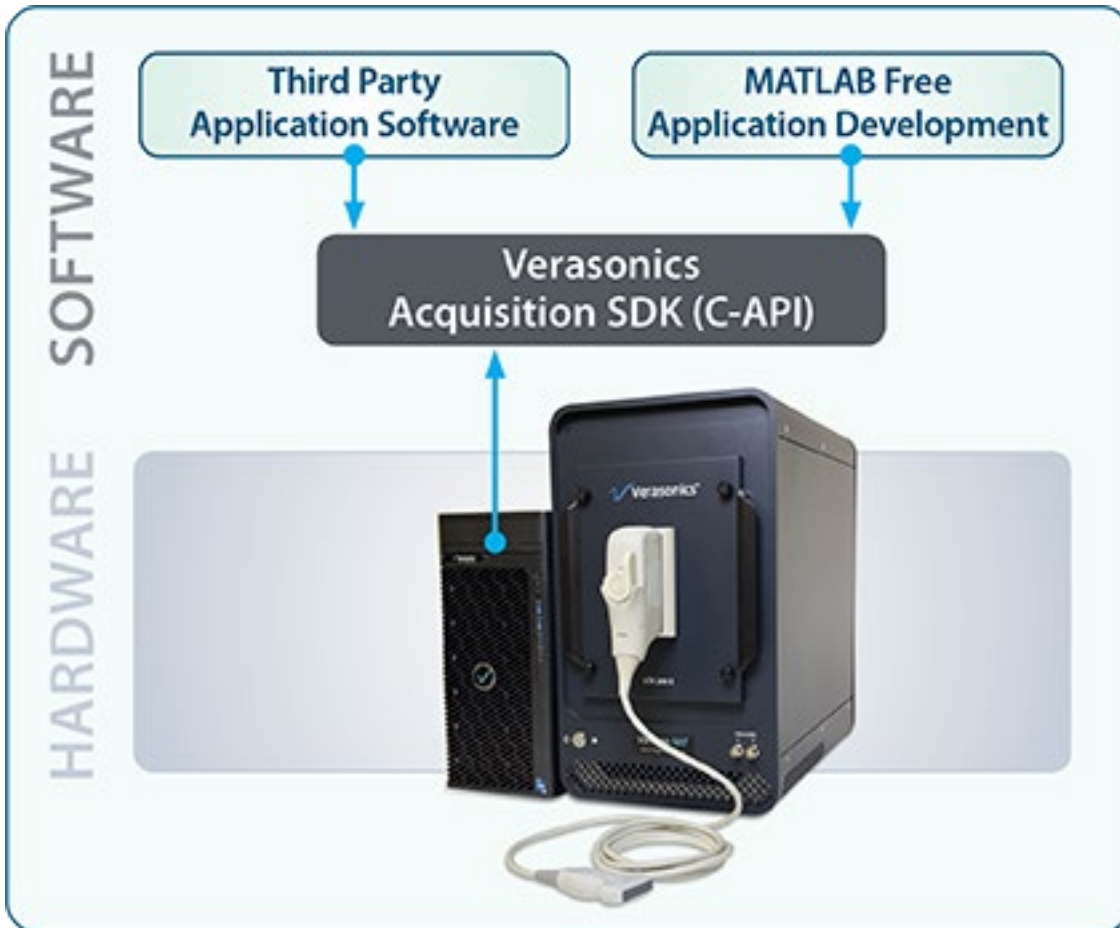
For questions on the Acquisition SDK Programming Model, Vantage *NXT* Research Ultrasound Systems or other Verasonics solutions, contact **sales@verasonics.com**.

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