Communication-simulation software smooths system design

EDN Staff - August 03, 1998
In the data-flow simulation of Matlab, processed data goes through one stage of computation. You may want a smaller, dedicated communications-only package versus a package that you can use to model a larger system. To install ACOLADE, the documentation leads you through a discussion of general modeling. The Finite Precision Arithmetic Library is particularly useful, allowing you to establish and analyze the accuracy of your system. If your system supports the GSM time-division standard, the library includes models relevant to these channels, roughly analogous to those for CDMA/IS-95. Another library for spread-spectrum/code-division multiple-access (CDMA)/IS-95 system modeling offers plenty of opportunity to adjust their functional parameters. For example, the channel modeling block includes models for various types of channels, such as multipath, shadowing, and fading. With this library, you can capture real-world considerations, for example, by establishing the loss at their band edges as separate parameters from their ripples. You directly set noise-related parameters, such as the desired signal-to-noise ratio (C/N) or noise temperature in the relevant models. If you need to create a more complex model, you can combine this toolbox with a signal-processing toolbox, which provides additional functions of data generation, encoding/decoding, error detection and correction, and numeric-processing operations. Icons on the screen represent these tokens, and looking at these tokens was at first confusing, but the documentation was quite clear.

For transient electronic system level analysis, you can use the transient electronic system level analysis (TESLA) software package, which is a powerful tool for simulating the behavior of electronic systems. With TESLA, you can simulate the behavior of electronic circuits and systems, including the effects of power supplies, transistors, and other electronic components. TESLA also includes a variety of libraries, such as the DSP library, which provides an array of fixed- and floating-point numerical operations. You can use TESLA to simulate the behavior of complex systems, including communication systems, computer systems, and other electronic systems.

For example, you can use TESLA to simulate the behavior of a communication system, including the effects of modulation, coding, and digital signal processing. TESLA includes libraries that allow you to simulate the behavior of communication systems, including modulation, coding, and digital signal processing. You can use TESLA to simulate the behavior of communication systems, including the effects of power supplies, transistors, and other electronic components. TESLA also includes a variety of libraries, such as the DSP library, which provides an array of fixed- and floating-point numerical operations. You can use TESLA to simulate the behavior of complex systems, including communication systems, computer systems, and other electronic systems.

In a simulation and modeling package, you need to consider ease of use, overall capabilities, and the availability of libraries. A good simulation and modeling package should be easy to use, have a wide range of capabilities, and include a variety of libraries. Mathworks did not design Matlab and Simulink exclusively for communication simulation; you can combine this toolbox with a signal-processing toolbox, which provides additional functions of data generation, encoding/decoding, error detection and correction, and numeric-processing operations. Icons on the screen represent these tokens, and looking at these tokens was at first confusing, but the documentation was quite clear.