

Use of a Cape-Open Thermodynamic Server in Legacy Codes

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Simulis[®] is the name of ProSim's new software suite. The component-oriented approach of its architecture is based on the Microsoft[®]'s COM/DCOM middleware. Simulis[®] Thermodynamics, one of the first components, is a thermophysical calculation server that generates highly accurate pure component and mixture properties (thermodynamic, transport, compressibility...) and fluid phase equilibrium (liquid-vapor, liquid-liquid and liquid-liquid-vapor). One main benefit of Simulis[®] Thermodynamics is its CAPE-OPEN compliance through its CAPE-OPEN thermodynamic plug and socket facilities. The standard version is provided as an add-in in Microsoft[®] Excel and as a toolbox for MATLAB[®] and enables the user to run complete thermodynamic calculations in these environments, but it can also be plugged in any legacy code using the provided SDK (Software Development Kit). An example of programming in VBA using Simulis Thermodynamics API will be presented. Then, the ability to use the CAPE-OPEN thermodynamic socket without further code writing will be demonstrated.