Interface of SimSci's Process Simulators with REFPROP of NIST

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Process simulators such as DYNSIM® and PRO/II® are widely applied to engineering tasks in the chemicals, refinery, gas processing, and upstream industries. Thermodynamic methods play crucially important roles in process simulators for accuracy of the simulations. Because REFPROP of NIST is well-known for its high accuracy for designated components and mixtures, many of the process simulators of SimSci have interfaces with REFPROP. In this session, we demonstrate the following real applications of REPROP integrated in process simulators.

- Demo-1: PRO/II® (steady-state simulator) optimizes refrigerant composition for a Rankine Cycle for power recovery

- Demo-2: DYNSIM® (dynamic simulator) predicts dynamic behavior of a natural gas compression system

The following benefits of the interface would be indicated:

- Accurate, robust and fast simulation: Accurate dynamic simulation runs multiple times faster than the real operations, appropriately utilizing REFPROP

- Ease of use: In the demo, we quickly create a simple process models on GUI of the software, and run it to show how easily the simulation model can be created

- Flexibility: Can apply a different type of thermodynamic method to each physical property in each part of simulation model.