Towards the Standardisation of Thermodynamic and Physical Properties Packages

Benqlilou1, C., S. Bel1, M. González1, M. Pons2, R. Szczepanski3, A. Espuña1, and L. Puigjaner1*

1Universitat Politècnica de Catalunya, Chemical Engineering Department, Av. Diagonal 647, E-08028 – Barcelona, Spain

2ATOFINA Centre Technique de Lyon BP 32 69492 Pierre-Benite Cedex, France

3Infochem Computer Services Ltd., 13 Swan Court, 9 Tanner Street, London, SE1 3LE, U.K.

Abstract
Adapting of a Thermodynamic and Physical Properties (Thermo) Package to the increasing improvements of computer performance and the development of new, efficient, and robust thermodynamic methods, remains expensive in time, cost and implementation effort. An efficient solution to overcome these drawbacks is to standardise Thermo communications with client applications in a consistent, efficient and secure way by designing a well-defined interface that ensures interoperability and transparency. The CAPE-OPEN (CO) standard provides such a facility. To enhance the existing standard, a revision of the CAPE-OPEN Thermo interface specification (version 1.1) has been proposed. A thermodynamic package has been wrapped to comply with this interface specification using COM technology. Considered as a help to developers, a Tester to verify compliance with the standard has been specified and developed. This Tester, a part of the CO-Tester suite, will be freely distributed and used to validate the consistency and compliance of the pieces of software implementing the new version of the CO Thermo interface specification. Version 1.1 of the CO interface specification for Thermo is operational.

References
CAPE-OPEN Standard 1.1, [online], available at the URL http://www.colan.org.

* Author to whom correspondence should be addressed: luis.puigjaner@upc.es