

CAPE-OPEN Standards Versioning

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Standards Versioning

- ◆ **How to organise the versioning of the CAPE-OPEN standards issued by CO-LaN?**
 - ⇒ **Enhancements to existing standards and future standards**
 - ⇒ **For a CAPE-OPEN implementation, the qualifier of version is carried by both a Process Modelling Component (PMC) and a Process Modelling Environment (PME) object.**
 - **A Material Object can be 1.0 or 1.1 (or both) from a thermodynamic point of view.**
 - **A Unit Operation, while at version 1.0 of the standard, can address Material Objects which are either Thermo 1.0, or Thermo 1.1 or both compatible.**

Standards Versioning

◆ Proposal

- ⇒ **New interfaces to be added to existing CAPE-OPEN objects rather than modifying existing interfaces.**
 - Through the use of extensions.
 - Backwards compatible as much as possible.
 - *The “extension” concept needs to be described.*
- ⇒ **Additional interfaces should not block the use of previously defined interfaces.**
- ⇒ **Over time a new version of a specification will be established incorporating a number of the extensions within the standard**
 - Some major extensions will stay as extensions

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Example, existing standards

- ◆ **Unit Operation Interface Version 1.0**
- ◆ **Extension - Functionality Dynamic Operations**
 - ⇒ The interfaces related to Dynamic Unit Operations sit aside those related to UNIT 1.0 so can be considered as an extension.
 - ⇒ Such an extension could be carried to another version of UNIT as long as there is no conflict with new interfaces.

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Example, existing standards

- ◆ **Thermodynamic Interface Version 1.1**
 - ⇒ Defines the implementation requirements for both a PME and a PMC - the two sides of the standard should evolve simultaneously
- ◆ **Extension - Functionality Chemical Reaction.**
 - ⇒ Applies only to Thermo 1.1 specification.
 - ⇒ Requires Custom Data extension.
- ◆ **Extension - Functionality Custom Data.**
 - ⇒ Enables a Property Package dealing with reactions to store intermediate results to speed up performance.
 - ⇒ Enables a software component to store and retrieve custom data from a Material Object.

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Future Standards (challenges)

◆ Flowsheet Monitoring

- ⇒ Requires new interfaces on both the PME and the Flowsheet Monitoring Components.
- ⇒ Intended to work with thermodynamic interfaces 1.1 at minimum and all versions of CAPE-OPEN interfaces.

◆ Petroleum Fractions

- ⇒ Implemented on a Material Object.
- ⇒ Does not interfere with the other interfaces on the Material Object so it does not belong specifically to Thermo 1.0 or Thermo 1.1.
- ⇒ Still there is a need to make it part of either of those two versions.

Thank you for your attention!

Views and comments welcome