Methods & Tools SIG report

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Outline

♦ Actions
  ✷ Thermodynamic version support
  ✷ Flowsheet monitoring
  ✷ Common interface specification
    • Collection
    • Parameters
  ✷ COSE Simulation Context interface

♦ Objectives next period
**Action: Thermo version support**

**Objective**
- Provide a means for PMCs and PMEs to expose which version(s) of CAPE-OPEN thermodynamic interfaces are supported

**Progress: delivered**
- Solution described in latest version of Unit Operation interface specification: refer to chapter 7
Thermo version support

♦ Context

❖ Useful for PME to know if a given PMC needs access to thermodynamic subsystem

♦ Solution

❖ Any PMC should be registered with following CATID
  • Consumes_Thermo_CATID: {4150C28A-EE06-403f-A871-87AFEC38A249}

❖ PMCs that consume thermodynamics will use the following two new CATIDs to indicate which version(s) of the thermodynamic interfaces are supported:
  • SupportsThermodynamics10_CATID: {0D562DC8-EA8E-4210-AB39-B66513C0CD09}
  • SupportsThermodynamics11_CATID: {4667023A-5A8E-4cca-AB6D-9D78C5112FED}
Thermo version support

PME Running

PME gets a list of installed PMCs

PMC does not implement Consumes_Thermo_CATID

PMC Implement Consume_Thermo_CATID

Unknown PMC Thermo Status

PMEM/PMC Using Thermo 1.0

PMC Implement SupportsThermodynamics10_CATID

PMC Implement SupportsThermodynamics11_CATID

PME Checks which Thermodynamics Version PMC can use.

A future thermodynamics System

Future Thermodynamics Versions

In the event that the PMC does not implement Thermo, the PMC either does not require access to the thermo subsystem, or is a legacy object assumed to be implementing Thermo 1.0 only.
Action: Flowsheet Monitoring

♦ Objectives:
   - Review, revise and publish the proposed draft for CAPE-OPEN Flowsheet Monitoring interfaces
   - Provide demos

♦ Progress:
   - Publicized in journal papers and conferences
   - No formal review and publication yet
   - Demos available from AmsterCHEM and US EPA
Objective: Resolve issues with the Common interface specification

Errata and Clarifications document drafted

Addresses

- A NULL Item pointer should be accompanied by an error condition
- Collection lower index should be 1
Action: Parameters common interface

♦ Objectives:

✓ Publish recommendations for minimum level of parameter support by PMEs
✓ Review dimensionality

♦ Progress:

✓ Modifications brought to interface document
✓ Errata and clarifications document drafted
  • Addresses dimensionality for Boolean and Option parameters

♦ Next task:

✓ complete revision of Parameters Common interface to eliminate ambiguities
Objective:
- remove ambiguities

Progress:
- Errata and Clarifications document drafted
- Addresses Named Value list

Future step:
- Request For Comments and publication
Objectives next period

♦ Parameters Common Interface specification
  - Publish intermediate errata and clarifications document
  - Complete revision

♦ Publish errata and clarifications documents
  - Collection Common interface specification
  - COSE Simulation Context interface specification

♦ Flowsheet Monitoring
  - Conduct RFC
  - Discuss with software vendors plans for implementation