

# Technical Report

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# Outline

## ■ Web site

### ⇒ Current features

- **Public section, Member section**

### ⇒ Future plans

## ■ CO Tester suite

### ⇒ Requests for Bids

### ⇒ Developments launched

### ⇒ Developments to come

## ■ SIGs

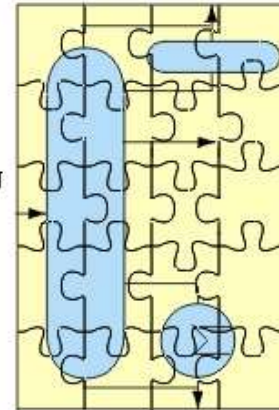
### ⇒ Status

### ⇒ Basis for on-going work

- CAPE-OPEN Vision: a (very) short [pdf-presentation](#)
- A Demonstration of CAPE-OPEN [interoperability](#)
- Influence the direction of CO standards and keep current with CAPE by [joining CO-LaN](#)
- Understand all the [reasons](#) why being a CO-LaN member will benefit your organization
- [What is going on in CAPE-OPEN](#), the CO-LaN, and the CAPE community
- What are the open [Request for Bids](#) published by the CO-LaN?
- Who are the [people and organizations](#) who have joined the CO-LaN?
- Understand the [Global CAPE-OPEN project](#), its accomplishments, and its relationship to the CO-LaN
- What are the existing [CAPE-OPEN interface standards](#)?
- What [commercially available software components](#) are labelled CO compliant?
- Find out about [organizations](#) involved in CAPE-OPEN activities
- [Frequently Asked Questions](#) about CAPE, CAPE-OPEN, standards, the CO-LaN, etc.
- Understand the [glossary of CAPE terms](#)
- Download the [software tools](#) you need to implement CO standards
- Change your password, explore the CO-LaN shared workspace, or participate in other [member services](#)

*Delivering the power of component software  
and open standard interfaces  
in computer-aided process engineering*

Welcome! CO-LaN (the CAPE-OPEN Laboratories Network) is a neutral industry and academic association promoting open standards in process simulation software. CO-LaN [members](#) are committed to making Computer Aided Process Engineering (CAPE) easier, faster and less expensive by achieving complete interoperability of CO compliant [commercial CAPE software tools](#). CO-LaN supports and maintain [CAPE-OPEN standards](#).



You can fully explore this site with the menu bar on the left!

[Why join the CO-LaN?](#) You and your organization can help improve existing CO standards, influence the direction of future CO standards, interact with leading CAPE practitioners, and insure the success of CO standards. [Join the CO-LaN now!](#) Once you have joined, there are a number of [member activities](#) that allow you to effectively participate in the CO-LaN. The member area is password protected, and includes a collaborative workspace, reports on current and planned activities, status of projects, etc.

Because CAPE-OPEN standards are new, we need and value publicity, and we welcome all inquiries from the press. If you have a specific information request, or if you would like to be added to our e-mail list for future press releases, contact [kerry.irons@colan.org](mailto:kerry.irons@colan.org).

There is constant activity in the CAPE-OPEN arena. You can find out about recent and planned [events](#) of interest to the CAPE community. Also, the [Global CAPE-OPEN project](#) has brought the CO standards to the point of commercial viability and has fostered the CO-LaN. If you need to better understand the details about CO standards and CAPE, we have developed an extensive [FAQ](#) list and a detailed [glossary](#) of terms - good reading!

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# Web site features: public section

## ■ Interoperability demo

- ⇒ Presentation pack for downloading

## ■ Documentation on interface standard

- ⇒ Both 0.9.0 and 0.9.3 sets available, FAQs

## ■ News and events

- ⇒ Dissemination events announced and presented

## ■ Recruiting members

- ⇒ Reasons for joining, bylaws, current membership

## ■ Testing software

- ⇒ Available for downloading as an executable

## ■ Listing CO compliant software

- ⇒ Component directory tool ready for use

# Web site features: private section

- Did you all get your ID & password for that section and the BSCW site included ?
- If not, ask to webmaster@colan.org alias Christian Töbermann

# Web site features: private section

## ■ Collaborative tool: BSCW

- ⇒ Repository of all files circulated within CO-LaN
- ⇒ Will be used by SIGs in day-to-day activity

## ■ Discussion boards

- ⇒ Provide a mean to exchange between members
- ⇒ Has to become a lively affair for SIGs support

## ■ Specific information

- ⇒ Minutes of BOD meetings

## ■ Mailing functionality

- ⇒ Used by Exec Board and BOD
- ⇒ Used by CO Update Newsletter for distribution

# Collaborative space

**BSCW**

File Edit View Options GoTo Help



Home



Public



Clipbd



Waste



Addr



Calend

Your location: :blb / CO-LaN members workspace

catch up send copy cut delete archive

CO-LaN members workspace



	Name	Shared	Note	Rating	Owner	Date	Events	Action
<input type="checkbox"/>	<b>01 - Information about Members</b>				blb	2001-03-07 11:49		
<input type="checkbox"/>	<b>02 - CO-LaN Society activities (meetings, budget etc.)</b>				blb	2001-11-20 11:18		
<input type="checkbox"/>	<b>03 - Technical Activities (SIGs, software etc.)</b>				blb	2001-03-07 11:52		
<input type="checkbox"/>	<b>04 - Marketing material</b>				blb	2001-07-23 15:15		

BSCW © 1995-2001 GMD, © 2001 Orbi Team

# Plans about the web site

- **Update the numerous pages**
  - ⊃ Prepare pages for 1.0 release
  - ⊃ Upgrade the downloading facility for CO Tester
  - ⊃ Provide links to freely available wizards (AT, HY)
- **Specification repository**
  - ⊃ Evaluate needs of SIGS
  - ⊃ Implement a solution
- **Populate the component repository**
  - ⊃ Need data from vendors
    - AT, HY, InfoChem, PSE, ProSim, BELSIM, etc...
- **Develop an interoperability reporting facility**



# CO Tester suite

## ■ Objectives

- ⊃ Interface specifications coming out of CAPE-OPEN
  - had to delay consideration of SOLVER
- ⊃ Help to plug and socket developers
- ⊃ Emphasis on testing rather than on labelling

## ■ Use

- ⊃ Rather systematically used by developers
- ⊃ Feedback so far enthusiastic or good
- ⊃ Seen as necessary by a lot of developers

# CO Tester suite

## ■ Organisation set up for development

⇒ UNIT & THRM plug testers within GCO WP8.3

- Update to 0.9.3 done by IFP on plug tester

⇒ Development subcontracted for additional testers

- Requests for Bids
- Selection of subcontractor
- Contractual negotiation
- Technical follow-up

# Requests for Bids

## ■ 4 RFBs issued

- ⇒ COSE (socket) UNIT & THRM tester
- ⇒ PPDB plug tester
- ⇒ SMST plug tester
- ⇒ MINLP plug tester

## ■ Subcontracts awarded

- ⇒ COSE: ADDUCE GmbH (almost finished)
- ⇒ PPDB: ProSim SA (end on Dec. 21, 2001)
- ⇒ SMST: ProSim SA (just starting on Nov. 28, 2001)
- ⇒ MINLP: UPC (contract to be finalised)

# Technical follow-up: COSE tester

- **Pascal ROUX in close touch with ADDUCE GmbH**
- **Deliverable being tested in:**
  - ⇒ **AspenPlus (by IFP and TotalFinaElf)**
  - ⇒ **Hysys (with the help from Hyprotech)**
  - ⇒ **CO Tester**
- **Tester based on 0.9.3 specification version**
- **Hysys 2.3 only COSE available at that specification level for UNIT**
- **Should be delivered shortly to PSE and BELSIM**

# Technical follow-up: PPDB Tester

- Kick-off meeting on August 17, 2001
- PPDB specification version 8 issued on Nov. 9, 2001
- Tester specification set should have been issued on September 21, 2001:
  - ⊃ delayed because of explosion in Toulouse
  - ⊃ issued on Oct. 31, 2001
  - ⊃ agreed by both parties on Nov. 14, 2001
- Status
  - ⊃ actual coding has started

# Technical follow-up: SMST

- **Contractual basis negotiated**
  - ⇒ COM-CORBA bridge excluded from development
  - ⇒ COM prototype added
  - ⇒ includes COM IDL development
- **Contract signed on Nov. 28, 2001**
- **Kick-off meeting on Dec. 10, 2001**
- **Tester specification set to be discussed shortly**
  - ⇒ draft issued by ProSim SA on Nov. 30, 2001
- **To be delivered by Feb. 28, 2002**

# Technical follow-up: MINLP

- **Contractual basis negotiated**
  - ⇒ **COM-CORBA bridge excluded**
  - ⇒ **COM prototype included**
  - ⇒ **includes COM IDL development**
- **Contract to be finalised**
- **Delivery expected Q1 2002**

# Developments to come

## COM-CORBA bridge

### ■ Objective

- ⇒ Open-up to CORBA world

### ■ RWTH.I5 COM-CORBA bridge needs to be evaluated

- ⇒ tested in CO Tester

- ⇒ used by Norsk Hydro in WP6 demo

- ⇒ under test by Hyprotech in Hysys

### ■ A specific RFB on bridges is considered in order to:

- ⇒ capture the generic part of the existing bridge

- ⇒ consolidate existing bridges

  - UNIT, THRM

- ⇒ develop a number of specific bridges

  - SMST, MINLP



# Developments to come

## Additions to CO Tester suite

### ■ CO Tester components applied to:

- ⇒ THRM 1.0
- ⇒ Reaction package
- ⇒ PETROFRAC
- ⇒ PDAE
- ⇒ Parameter Estimation and Data Reconciliation
- ⇒ ...

### ■ Prioritisation needed since rather high cost involved

# Special Interest Groups (SIGs)

- No SIG created in 2001
- Knowledgeable people heavily involved in GCO work
- SIG kind of work already tested within GCO
  - Methods & Tools group
  - Interoperability Task Force
  - Revision group for THRM interface specification
- Could be quickly applied to:
  - ⇒ Revision group for SOLVER interface specification
    - Started in 2001
- Evaluation of interface specification status needed
  - ⇒ consistency
  - ⇒ scope
  - ⇒ maturity

# UNIT interface specification

- **Moved to 0.9.3**
  - ⇒ Parameters and Error Handling
- **Test with design specs in process models**
  - ⇒ To be done to provide full functionality needed
- **Text needs update in regard of THRM 1.0**
- **Implementation and testing in dynamic tools**
  - ⇒ Has not really started
- **Consistency and integration with hybrid models spec**
  - ⇒ Situation unclear

# THRM interface specification

## ■ Revised specification (1.0) almost ready

- ⇒ 90% of the textual specification written
- ⇒ format not exactly adhering to M&T rules
- ⇒ COM IDL to be written in Q1 2002
- ⇒ Implementations considered by:
  - AspenTech for version 12 (beta version Q4 2002)
  - Hysys for version 4 (development starting Q2 2002)
  - Infochem version 3.2 (development starting Q2 2002)

## ■ Will still lack Parameter interface

- ⇒ Needed for some parameter identification tasks

# SOLVER interface specification

- **Scope of 0.9.0 version (LAE, NLAE, DAE) to be reduced**
  - ⇒ for sake of simplicity
  - ⇒ for quicker implementation and actual testing
- **Consistency with optimisation interfaces to be checked**
- **Extension to COM to be dealt with:**
  - ⇒ partly within MINLP tester development

# Proposal for SIGs

Through recent discussions some organisations (my feeling) have already expressed some interest in:

- **Finish THRM revision to 1.0**

- ⊃ AspenTech, Hyprotech, Infochem, TotalFinaElf, ...

- **Bring UNIT spec up to THRM 1.0**

- ⊃ AspenTech, Hyprotech, TotalFinaElf, ...

- **Develop SOLVER 1.0 from 0.9.0**

- ⊃ AspenTech , INPT, PSE, RWTH-LPT, TotalFinaElf, ...

- **Interaction with CFD packages (Knut 's proposal)**

- ⊃ Norsk Hydro

- **Interoperability testing**

# SIGs and other developments

**Discussion is open**

**What do we want the CO-LaN to do ?**