

# OVERVIEW OF IDCM

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<https://idcm.wp.mines-telecom.fr>

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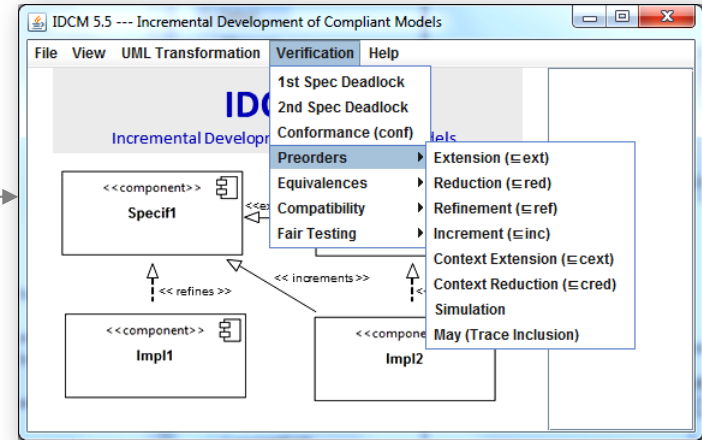
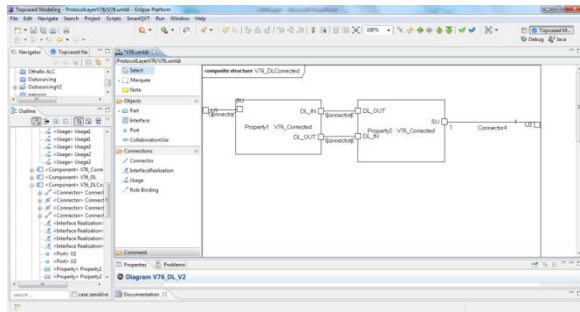
Anne-Lise Courbis

Thomas Lambolais

June 2016

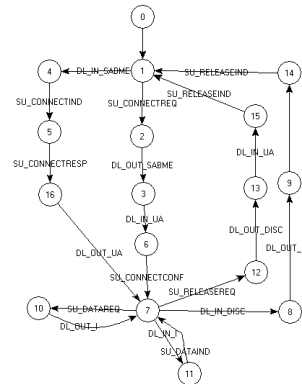
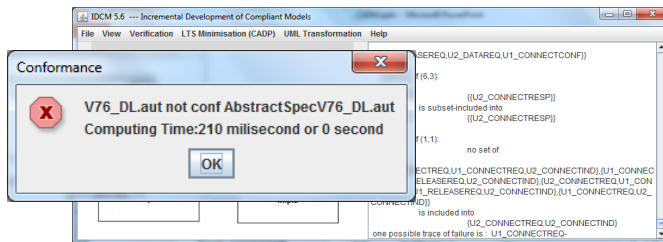
# UML2.1 Models Described with TopCased\* Or Papyrus\*\*

# IDCM – ModelTransformation & Analysis



CADP \*\*\*

## Diagnosis

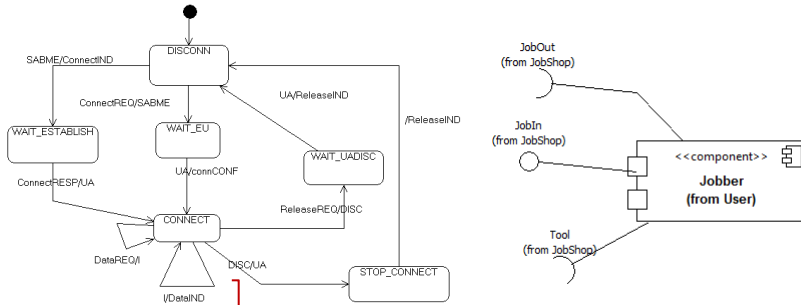


- [www.polarsys.org/topcased/](http://www.polarsys.org/topcased/)
- \*\* [www.eclipse.org/papyrus/](http://www.eclipse.org/papyrus/)
- \*\*\* [cadp.inria.fr](http://cadp.inria.fr)



Required modules for some options

# UML2.1 simple components

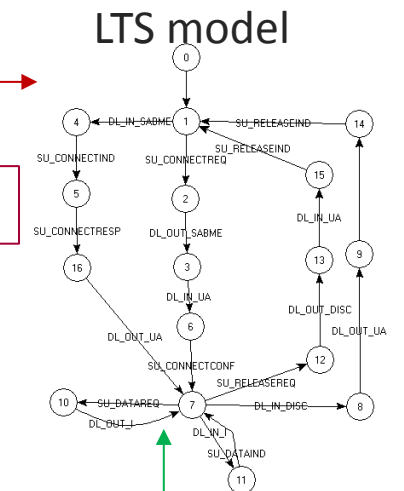


# IDCM W1.0

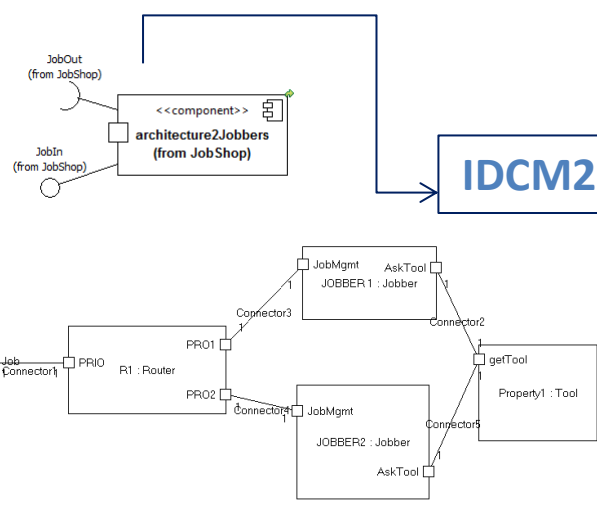
# IDCM W2.0

   Required modules

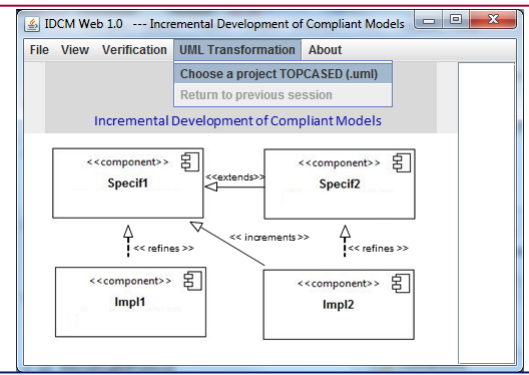
**IDCM1 – Simple component transformation**



# UML2.1 composite components or simple comp. with multi-region states



**IDCM2 – Composite component transformation**

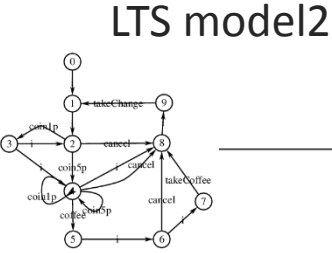
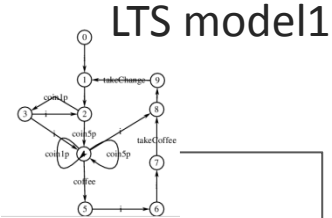


**EXP.OPEN description**

**CADP – EXP.OPEN**  
[cadp.inria.fr/](http://cadp.inria.fr/)  
 cygwin

# IDCM1 – Liveness analysis

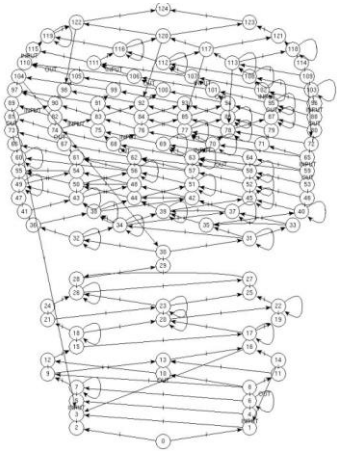
# IDCM2 – Liveness analysis



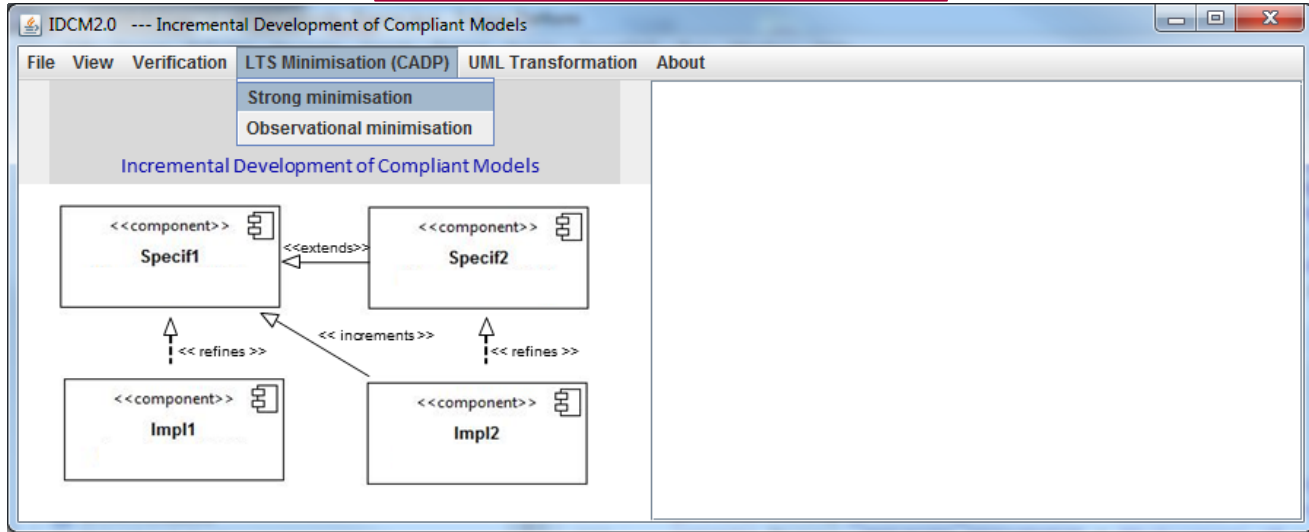
The screenshot shows the IDCM 5.5 software interface. The 'Verification' menu is open, showing options like '1st Spec Deadlock', '2nd Spec Deadlock', 'Conformance (conf)', 'Preorders', 'Equivalences', 'Compatibility', and 'Fair Testing'. The 'Preorders' sub-menu is also open, listing 'Extension (E ext)', 'Reduction (E red)', 'Refinement (E ref)', 'Increment (E inc)', 'Context Extension (E cext)', 'Context Reduction (E cred)', 'Simulation', and 'May (Trace Inclusion)'. The main workspace shows a UML diagram with components 'Specif1' and 'Impl1' connected by a 'refines' relationship, and 'Impl1' and 'Impl2' connected by an 'increments' relationship.

## Diagnosis

The screenshot shows the IDCM 5.6 software interface. A 'Conformance' dialog box is open, displaying a red 'X' icon and the text: 'V76\_DL.aut not conf AbstractSpecV76\_DL.aut Computing Time:210 milisecond or 0 second'. The background shows a UML diagram with a component 'U1\_CONNECTREQ' and its associated requirements and responses.

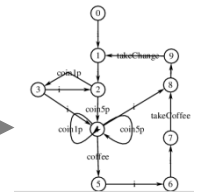


## IDCM2 – LTS minimisation



CADP – bcg\_min  
cadp.inria.fr/

cygwin



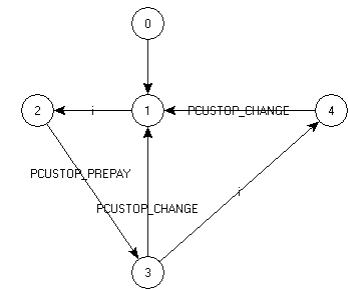
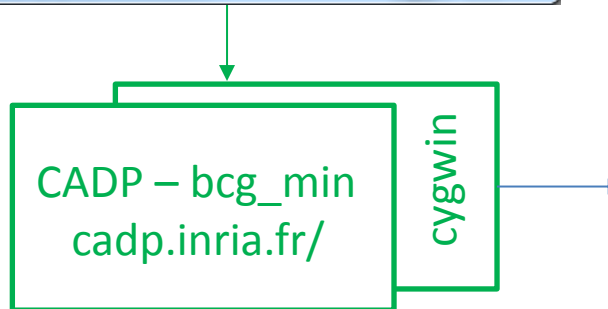
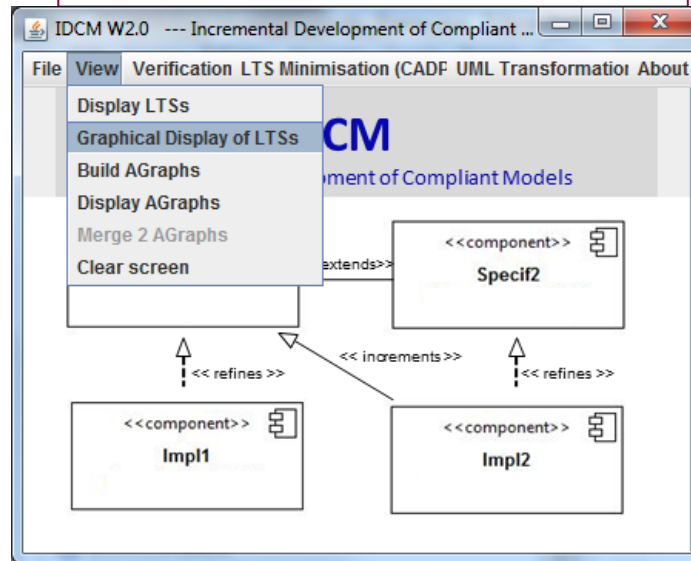
  Required modules

```

LTS: CustomerV0.aut
0--(i)->1
1--(i)->2
2--(PCUSTOP_PREPAY)->3
3--(i)->4
3--(PCUSTOP_CHANGE)->1
4--(PCUSTOP_CHANGE)->1

```

## IDCM2 – LTS graphical display



 Required modules