Using formal methods without knowing them

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Joint work with Federico Banti and Rosario Pugliese

Aim of this work

Enable verification of properties of service-oriented systems modelled by high-level (UML-based) modelling languages . . .

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Formal methods

- Process calculi
- Temporal logics
- Model checking

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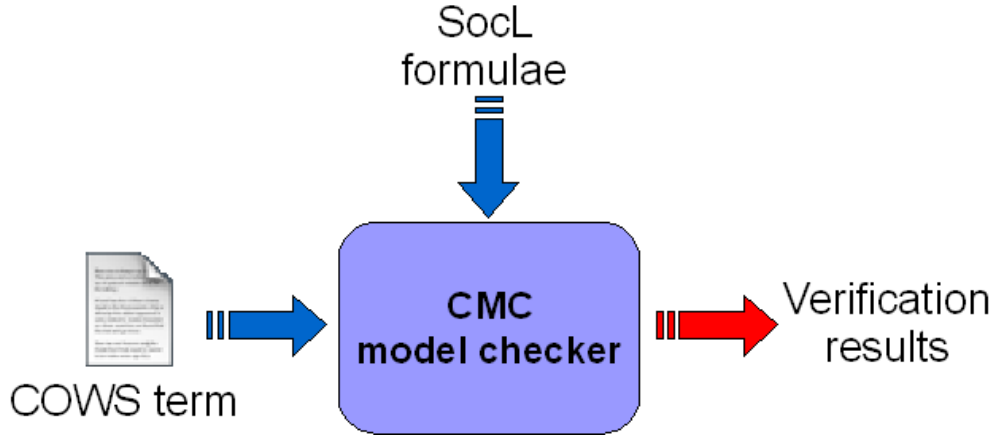

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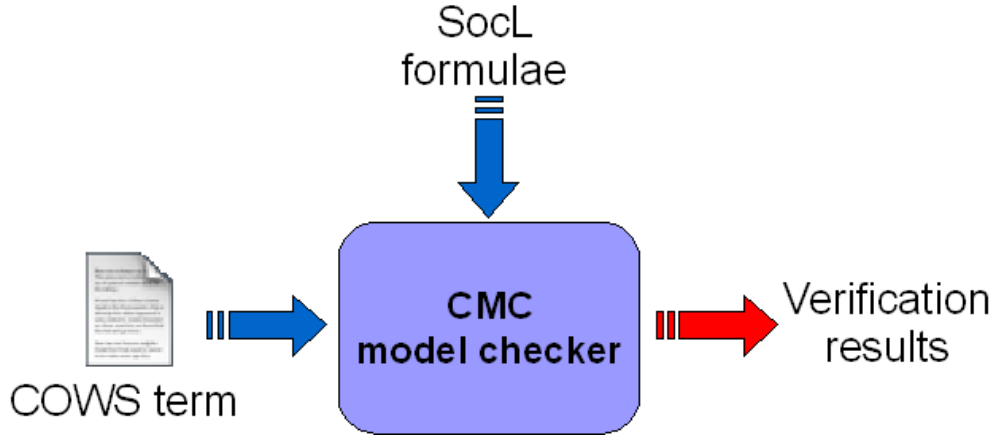

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Just an example...

Verification results

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Information Society Technologies

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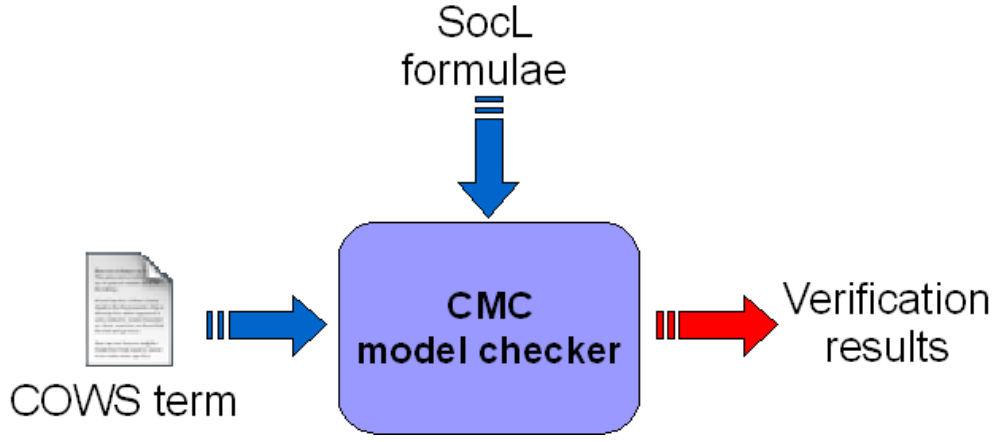

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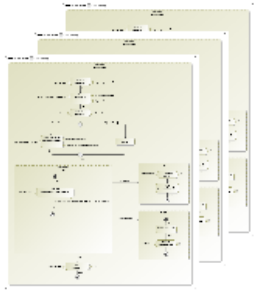
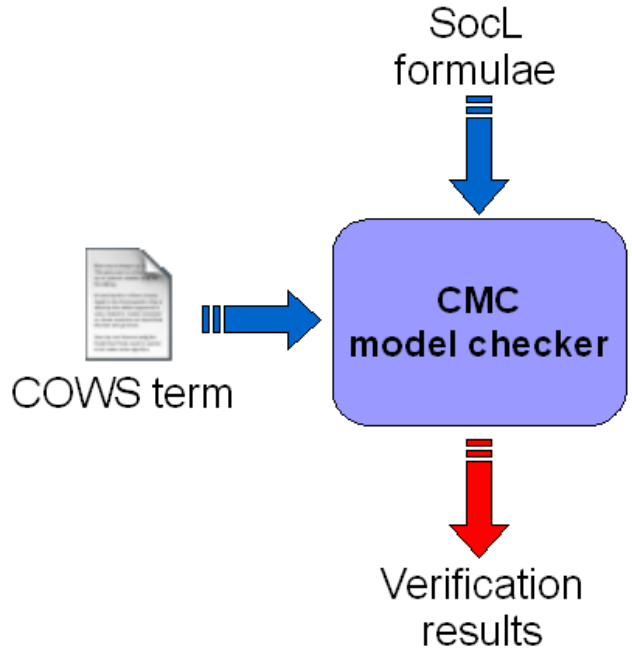
This may not be the case, especially within industrial contexts, where people are usually familiar with higher-level UML-based modelling languages

How to reconcile



UML4SOA diagrams



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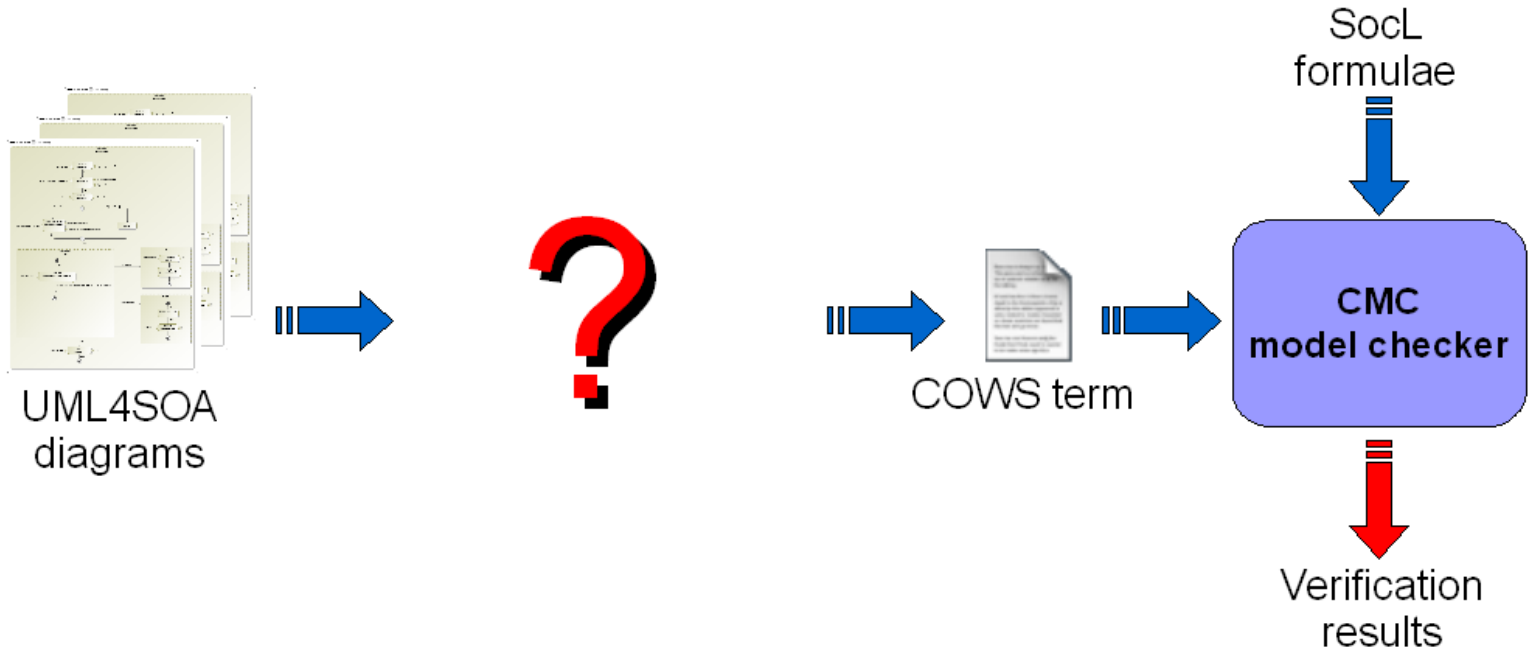
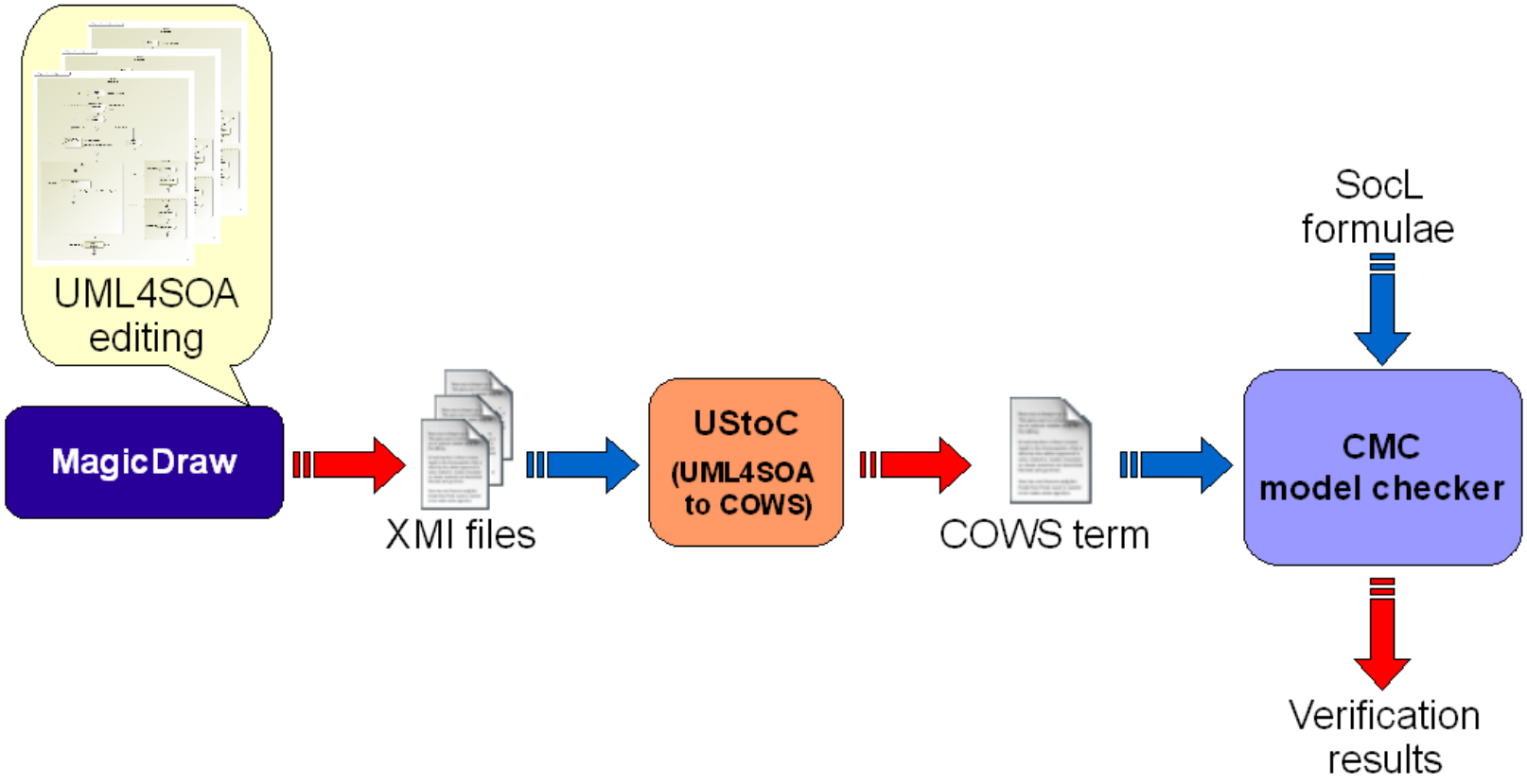


Our proposal



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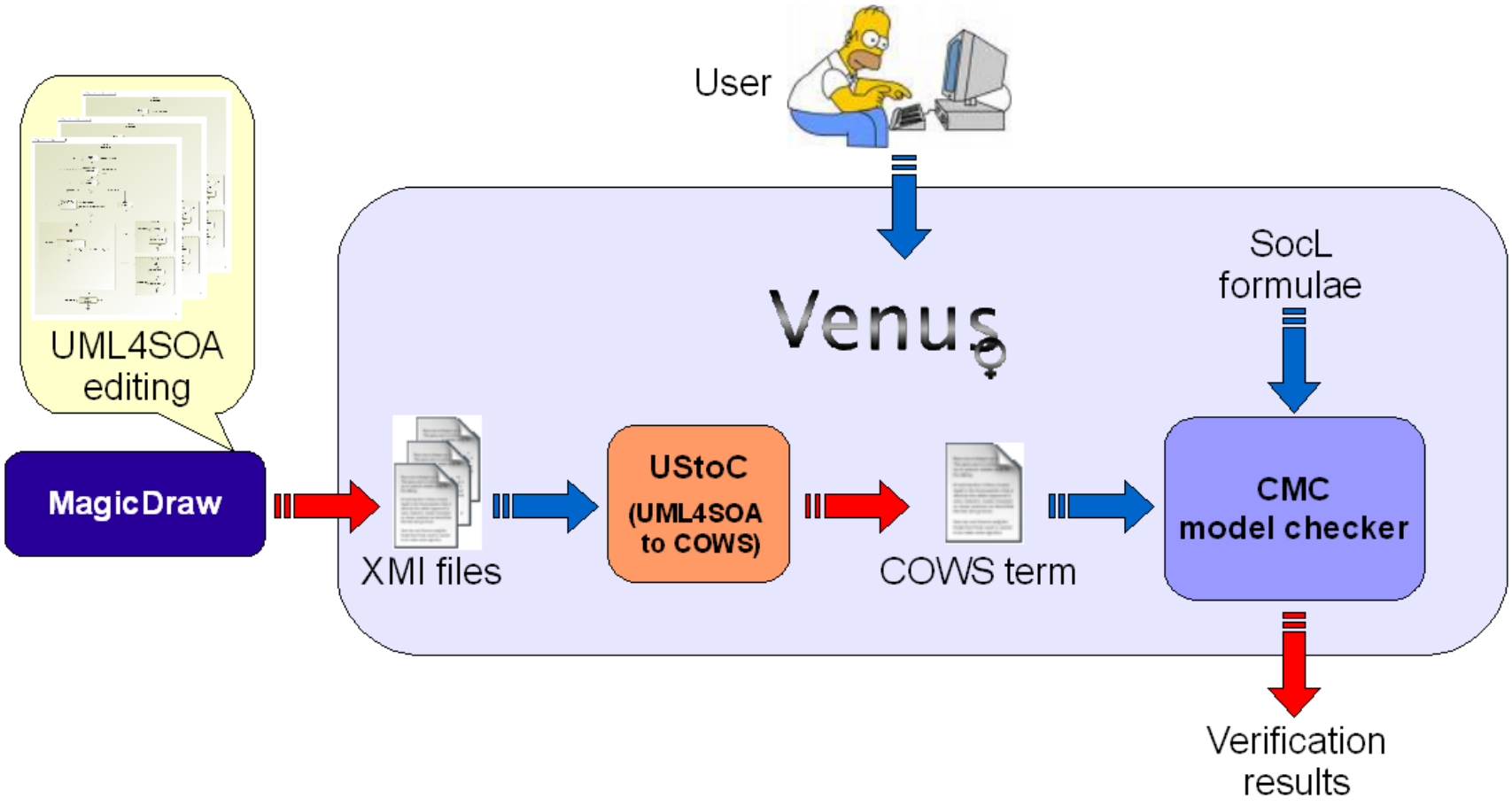

Tool demonstration . . .

Concluding remarks

- Venus aims at allowing (non-expert) users to verify UML4SOA models of services
- Ongoing and future work:
  - Support the last version of the UML4SOA profile
    - currently, only version 1.2 is supported
  - Refine the CMC feedbacks (e.g. counterexamples)
    - the verification results are already expressed in terms of operations of the UML4SOA specification (by exploiting the CMC abstraction mechanism)
    - however, such output could be still refined to make it more understandable

http://rap.dsi.unifi.it/cows/

Thank you!