PSOA RuleML languages enrich multiple inheritance and multi-membership from classical object-oriented programs and databases to *perspectival* data & knowledge representation.

“Rich TA” example of graph-relational data with (in)dependent slots and tuples:

```
Teacher##Scholar % Taxonomy
Student##Scholar
TA##Teacher
TA##Student
John#TA(workload+>high) % Data
John#Teacher(+[Wed Thu] dept+>Physics salary+>29400 income+>29400)
John#Student(+[Mon Tue Fri] -[1995 8 17] dept+>Math gender+>male)
```

Such factual data can be generalized to rule knowledge like ?o#TA(workload+>high) :- ..., where querying by (non-)perspectival fact retrieval is generalized to rule-based inference.

**PSOA TransRun** is the open (Java-)source reasoning framework for PSOA at RuleML.org, with translators to XSB & SWI Prolog’s and TPTP’s runtime engines (current release: 1.4.2). Our test and use cases show efficiency advantages of dependent and tupled representations. These reasoners are to be complemented by one at RuleML.com, with advanced language-uniform UI (much beyond the current Web-based UI: psoademo-chatty-cat.eu-gb.mybluemix.net). RuleML.com will support RuleML.org by reflecting the RuleML spec, initially of PSOA languages.

**PSOA use cases**, efficiently realized with PSOA TransRun, include Port Clearance Rules, Medical Devices Rules, and Air Traffic Control (ATC) Knowledge Base (KB).

[psoa.ruleml.org/learn](http://psoa.ruleml.org/learn) is a resource page on PSOA syntax, (query) semantics, and tools.

**RuleML.com services** include general PSOA consulting (harold.boley@ruleml.com) as well as building customized PSOA KBs and training users (theodoros.mitsikas@ruleml.com).