Usability Extensions for the Worklet Service

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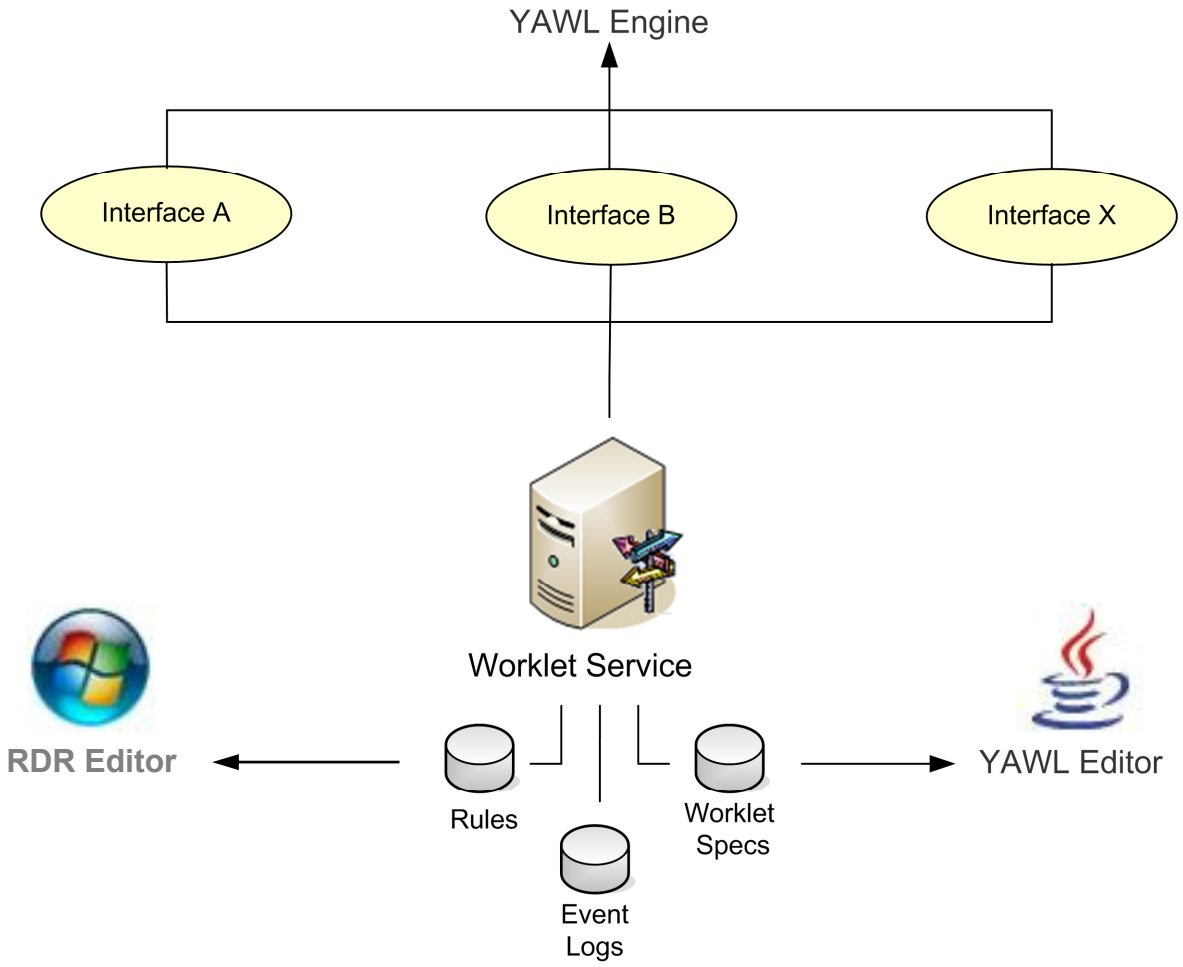
The YAWL Worklet Service

- Part of standard deployment since Dec. 2005
- Two main components:
  - Selection: runtime flexibility
  - Exception: runtime exception handling
- Each uses:
  - An extensible repertoire of self-contained processes
  - An extensible Ripple-Down-Rule set (RDR)

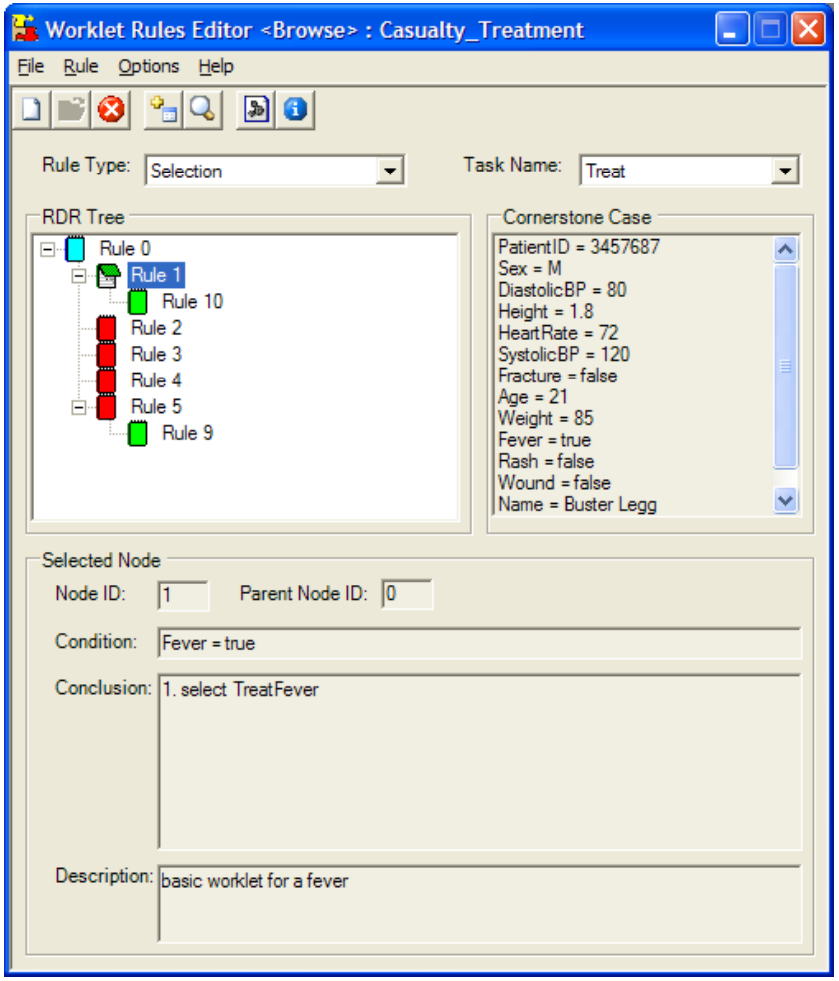
Service Architecture



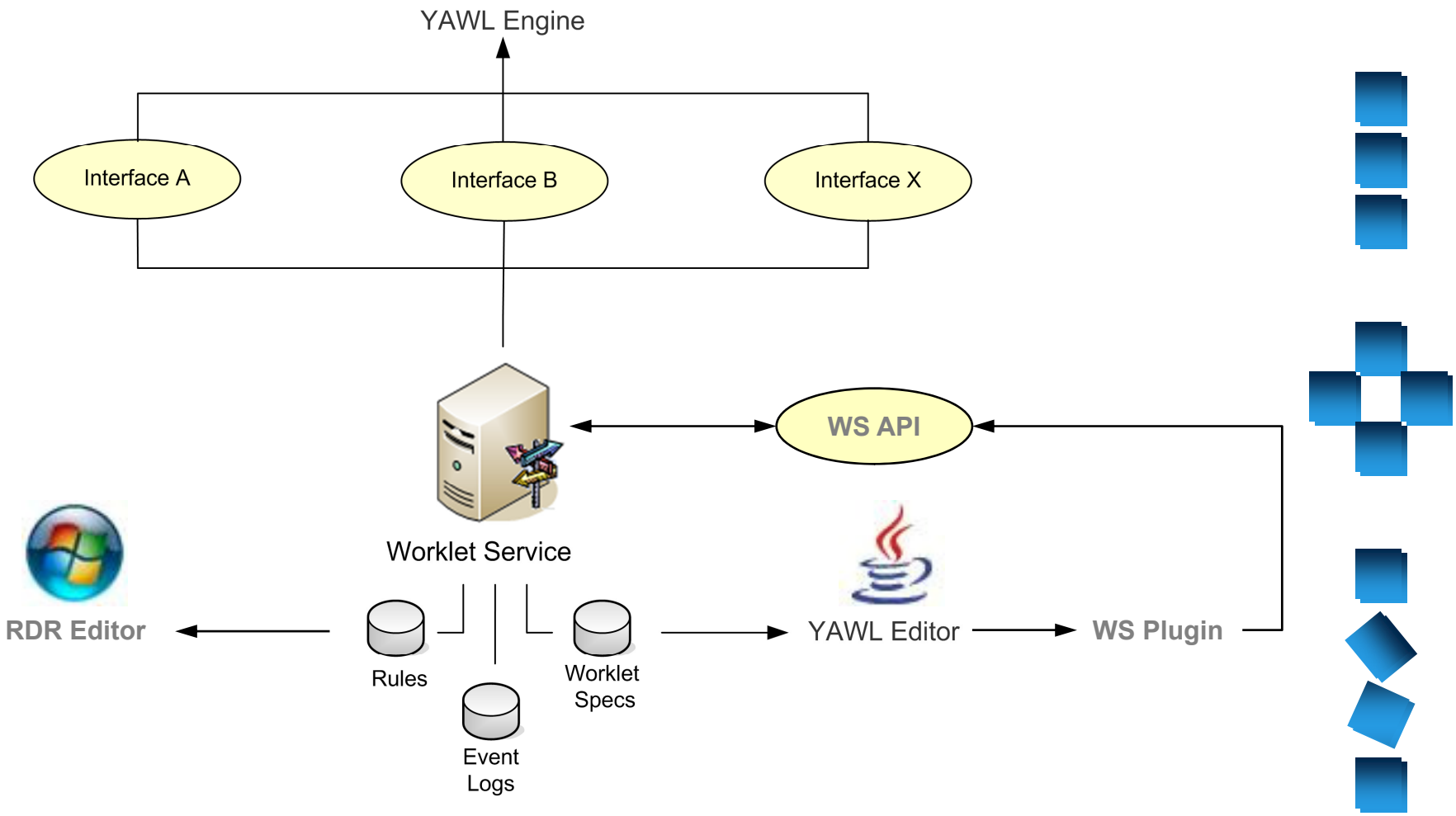
From: Modern Business Process Automation, Figure 11.2, p. 296

Usability Issues

- Platform constraint of the Rules Editor
- Dependencies of the Rules Editor
- Some conceptual complexity
- Offered functionality an optional extra



Service Architecture



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Worklet Service API

- Two main functionalities:
  - Create, access, update and evaluate RDR sets
  - Provide notifications to event listeners
- RDR sets can now be created to:
  - Support YAWL process executions
  - Any other purpose!
    - Offers RDR support to external applications

API Methods

- *Get* a rule node, tree or entire set
- *Add* a new rule node
- *Evaluate* a given dataset against an RDR set
  - Returning the result (if a rule is satisfied)
- *Process* a given dataset against an RDR set
  - Triggering an exception handler (if a rule is satisfied)

- Rules can be expressed using:
  - the usual numeric, comparison and logical operators
  - XQuery
  - pluggable user-defined functions

Event Listeners

- Listeners implement the *WorkletEventListener* interface and register with the Worklet Service via the API
- Events:
  - caseLevelExceptionEvent
  - itemLevelExceptionEvent
  - selectionEvent
  - constraintSuccessEvent
  - shutdown

Rules Editor

- A replacement Rules Editor will be added as a plugin to the YAWL Editor
  - Platform independence
  - Less complexity
  - Linked to selected specification or task
- API used for rules management
  - Smaller ‘conceptual overhead’

Conclusion

- Users can now:
  - More easily integrate the Worklet Service into projects.
  - Easily add, manage and evaluate rules.
  - Process (trigger) exceptions externally.
  - Avoid the constraints and learning curve of the existing Rules Editor
  - Be notified of service events
    - Support exception-handling service chains

Conclusion

- For a novel application of the API, see:

D. Passinhas, M. Adams, B. O. Pinto, R. Costa, A. Rito Silva, and A.H.M. ter Hofstede. Supporting blended workflows. In *Proceedings of the Demonstration Track of the 10th International Conference on Business Process Management (BPM 2012)*, volume 940 of CEUR Workshop Proceedings, pages 23–28, Tallinn, Estonia, September 2012. CEUR-WS.org.