Demo and initial trials with Composite Web Services

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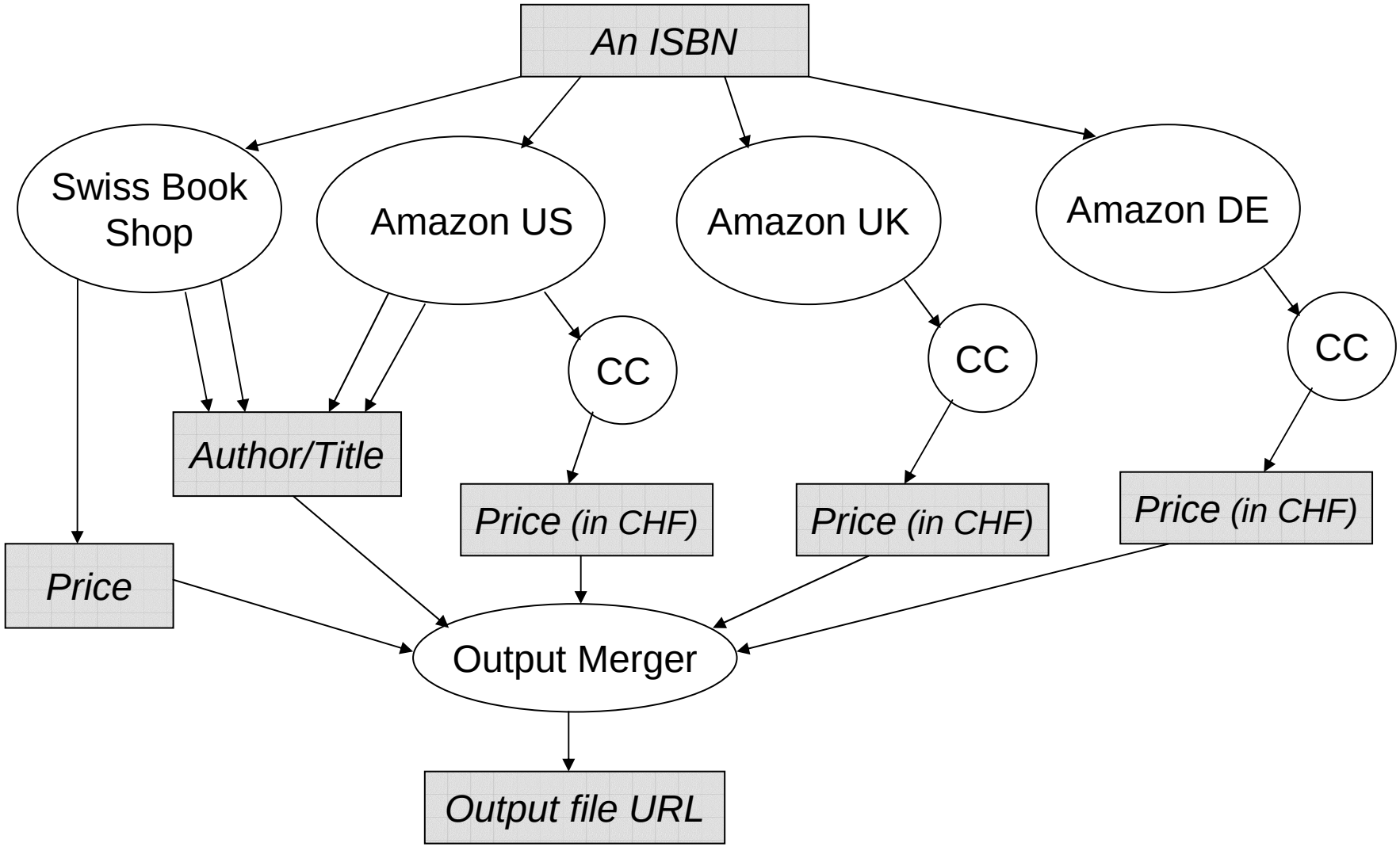
Short introduction to OPERA

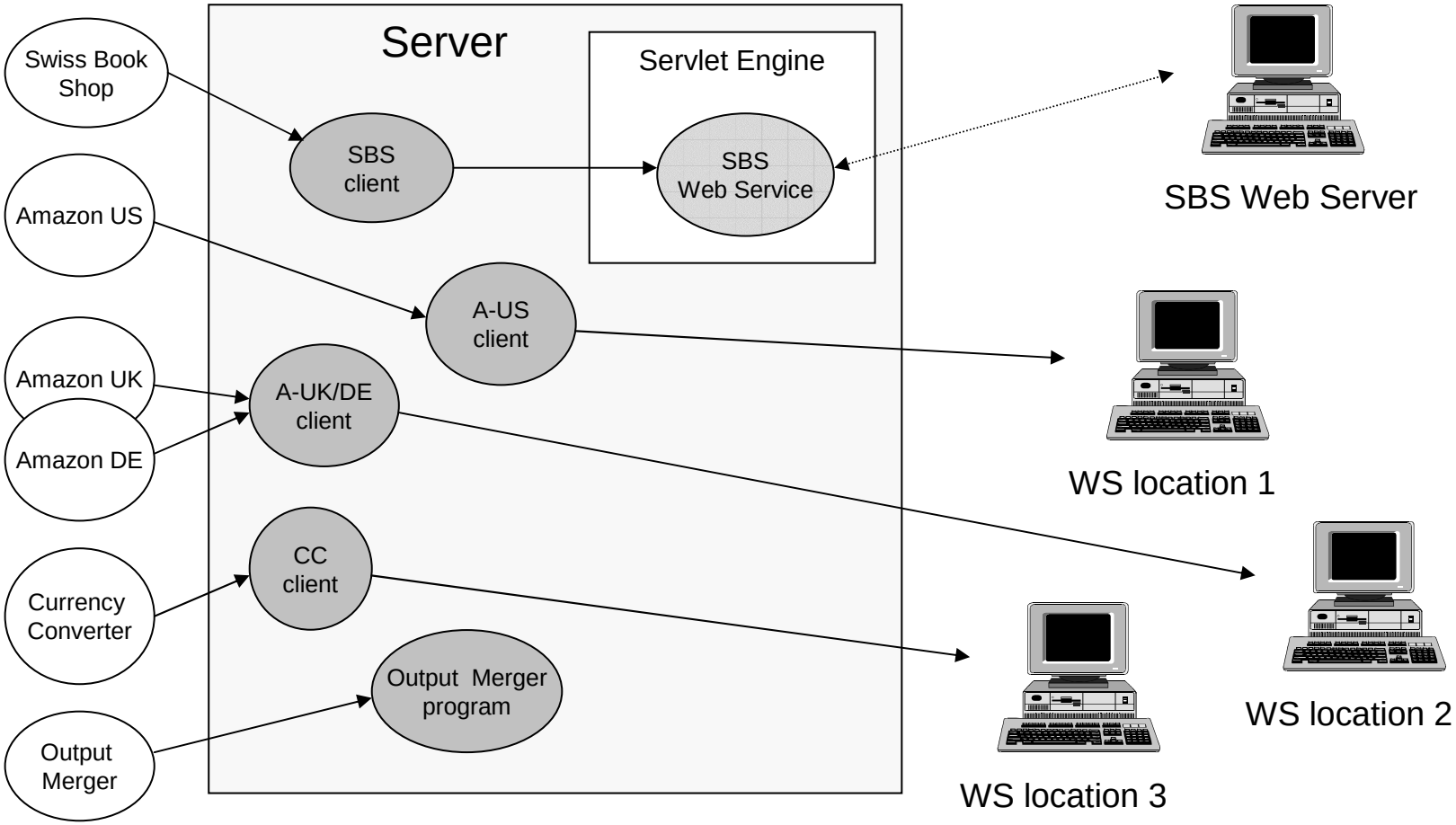
- OPERA = Open Process Engine for Reliable Activities
- It’s a work flow system, initially specialised on cluster computing, but recently expanding in new directions.
- It now has an integrated Servlet Engine (Tomcat to make processes and administrative functionality available as Web Services.
- Soon to come is the ability to integrate Web Service (operation) calls directly in task definitions.
- Tasks/activities wrap programs (& their parameters), and are composed into higher-order processes.

An example composite WS



The technical aspects

- The SBS WS I coded myself using JAXRPC 1.0_01, Tomcat 4.1.12 & Ant 1.5.1.
- The 4 clients were created with the same JAXRPC/Ant versions.



OPERA applicability in ADAPT?

- Advantages:
  - Persistent storage for both (process design) templates and the statistics of each instance (executed BS/CS).
  - Graphical composition tool.
  - ‘Seamless’ Web Service integration (soon to come; the so called SOAP-OPERA! ☺).
- Disadvantages:
  - Execution overhead (threaded java solution is faster)
  - Client program only on Windows (written in Delphi).
  - No EJB integration (…yet?)

Conclusions

- Further investigation is needed before deciding what parts of OPERA can/will be re-used for ADAPT.
- The documentation of some of the current web service frameworks is incomplete (necessary manual configuration changes are not mentioned, etc)
- Web Service Composition is not a trivial programming task, at least when performance issues are raised (f.i. threading to introduce a certain level of parallelism).
- Books are expensive in Switzerland ☺

What’s next?

- CS middleware architecture draft before the end of Feb.
- BEA WebLogic Workshop evaluation.
- OPERA & JBoss?
- Conversational languages experimentation.