Business Process Management: Concepts, Languages, Architectures

Second Edition

Figures of Chapter 7

Mathias Weske

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Best regards,

Mathias Weske

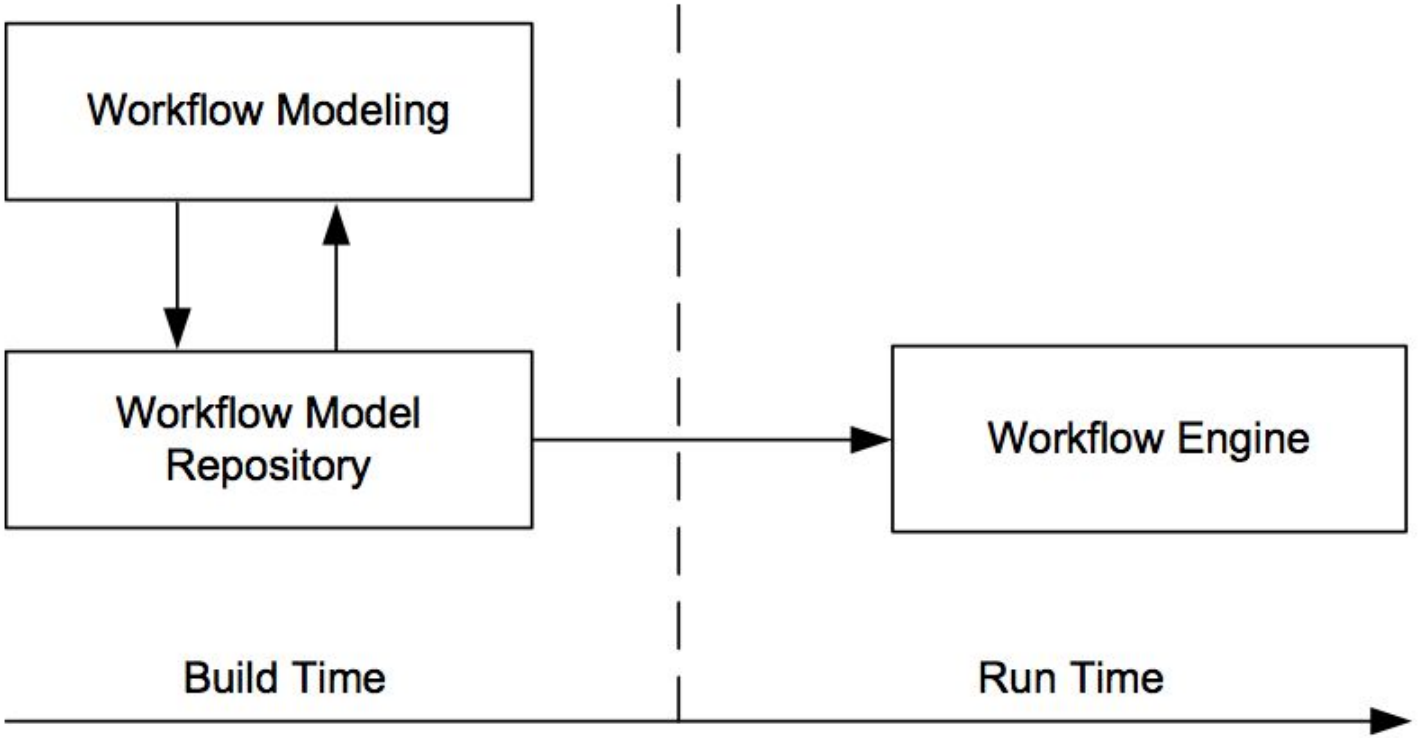

Fig. 7.1. Build time versus run time of a workflow

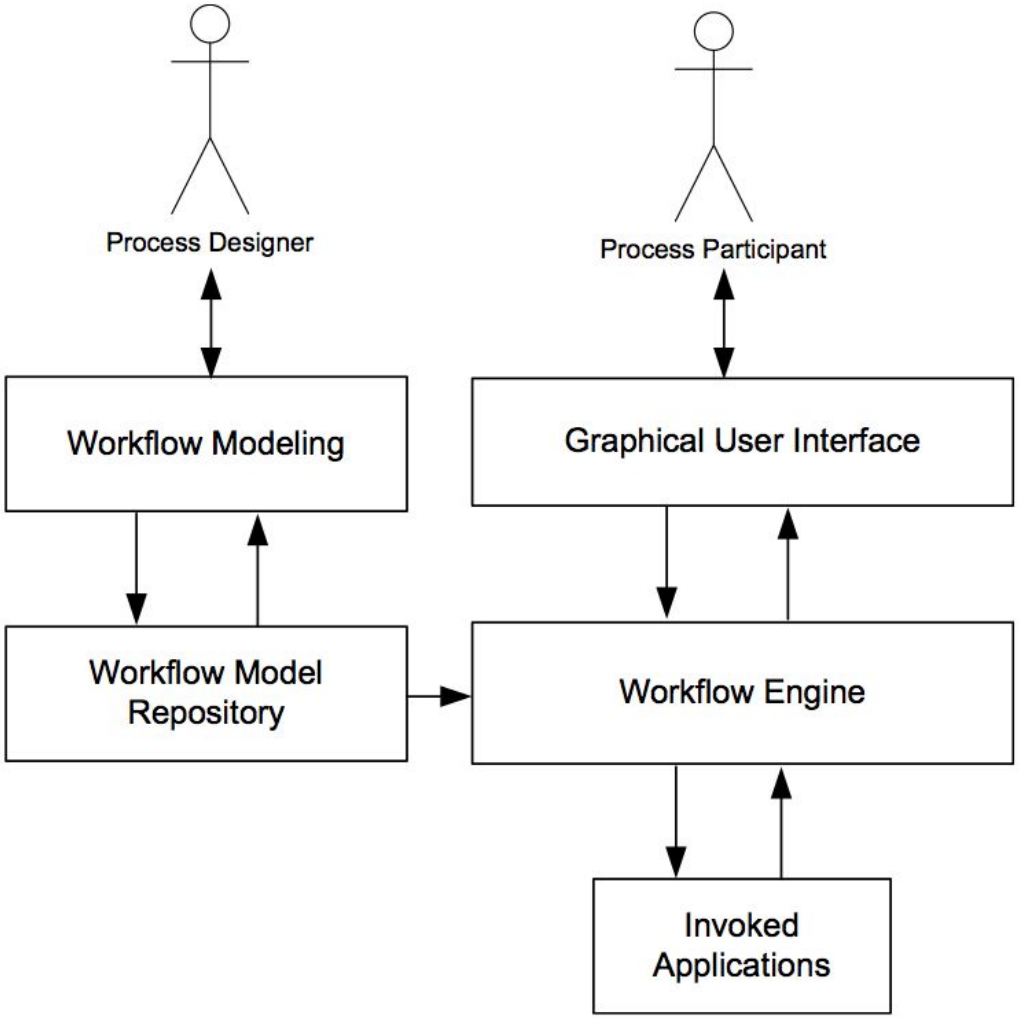

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Fig. 7.2. Workflow management systems architecture

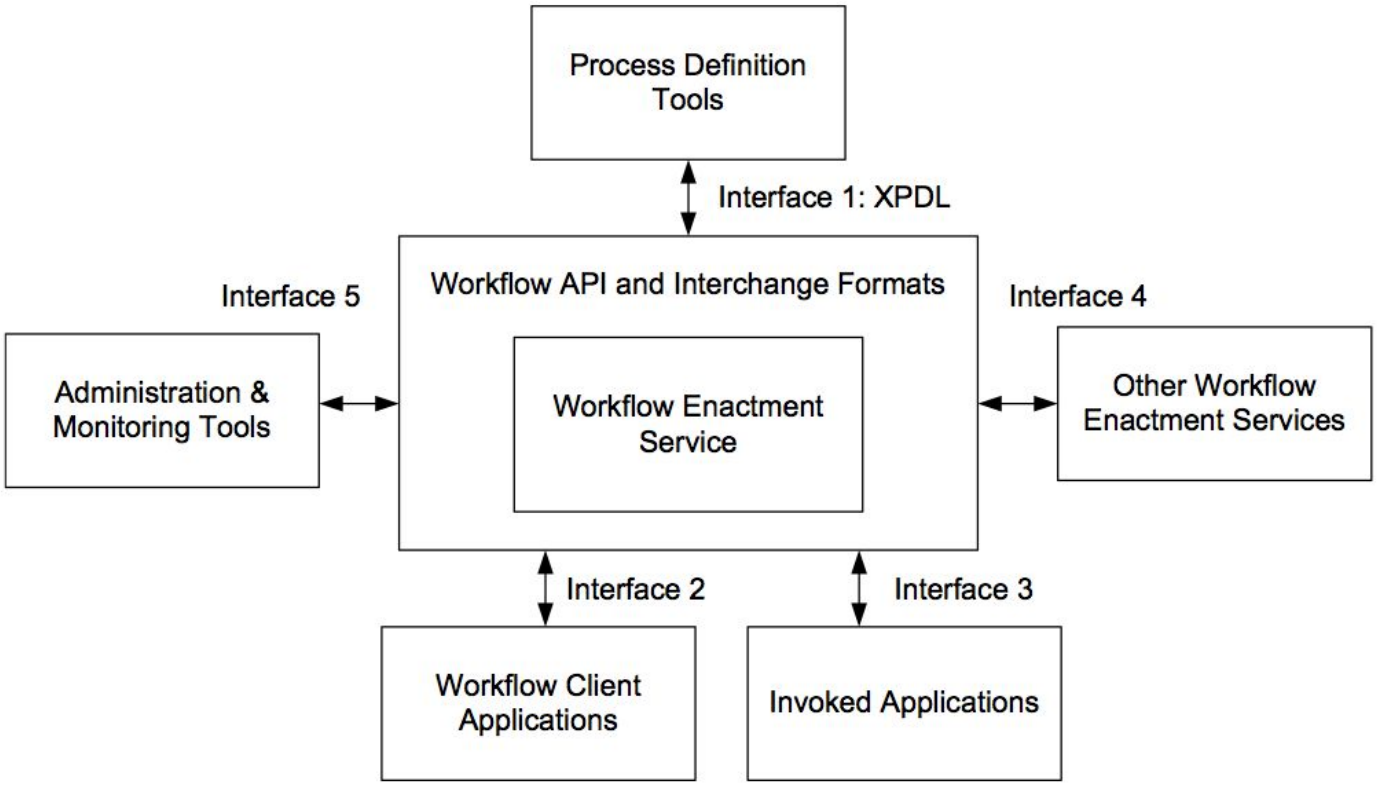

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Fig. 7.3. Workflow reference architecture, proposed by the Workflow Management Coalition

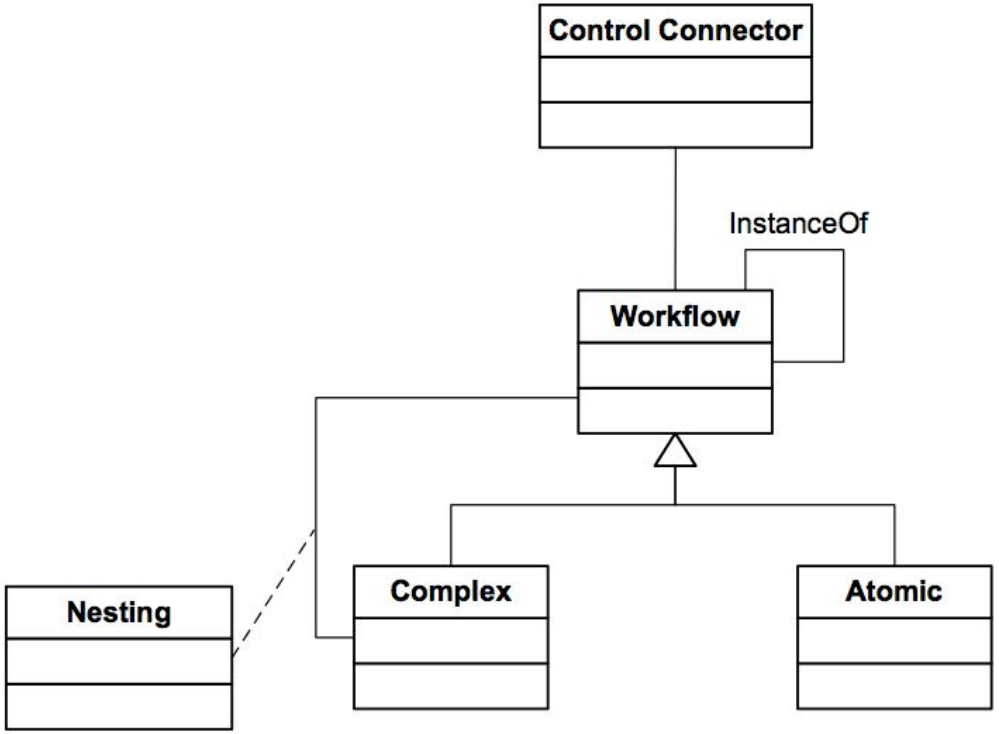

Fig. 7.4. Metamodel of flexible workflow management system, simplified version

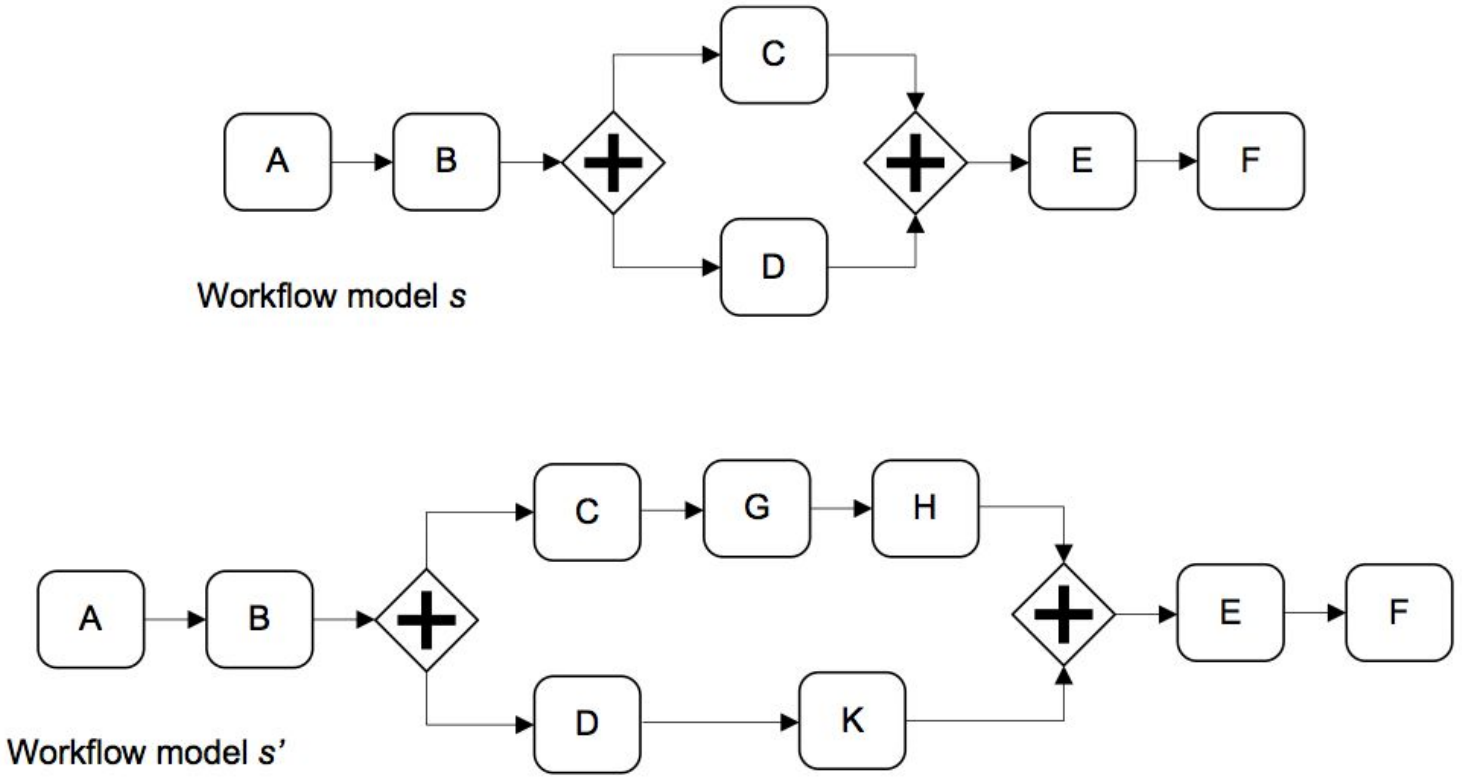

Fig. 7.5. Workflow model s and modified workflow model s'

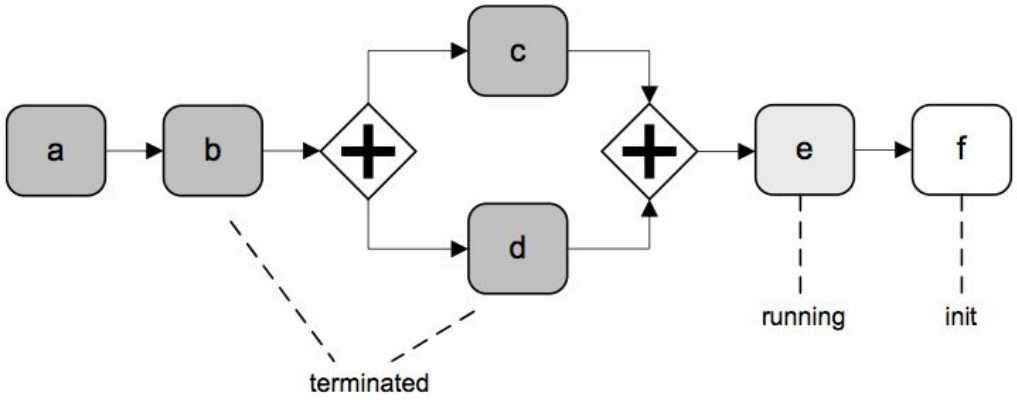

Fig. 7.6. Workflow instance i based on workflow model s with state information

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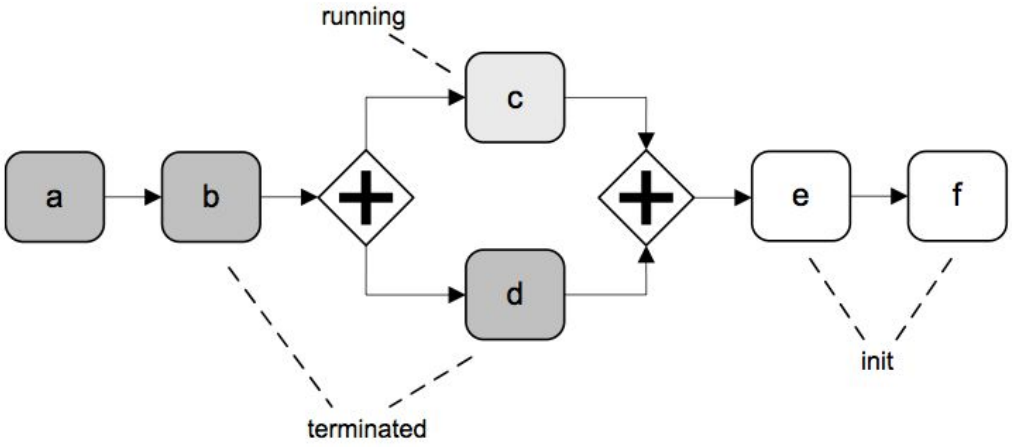

Fig. 7.7. Workflow instance j based on workflow model s with state information

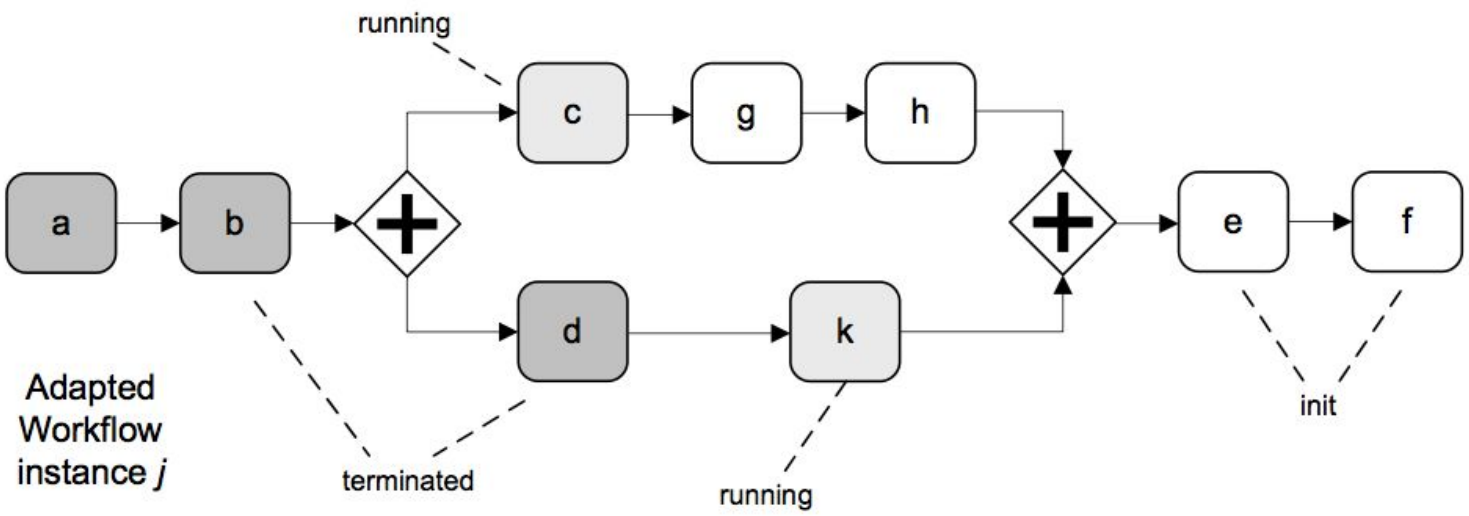

Fig. 7.8. Adapted workflow instance j

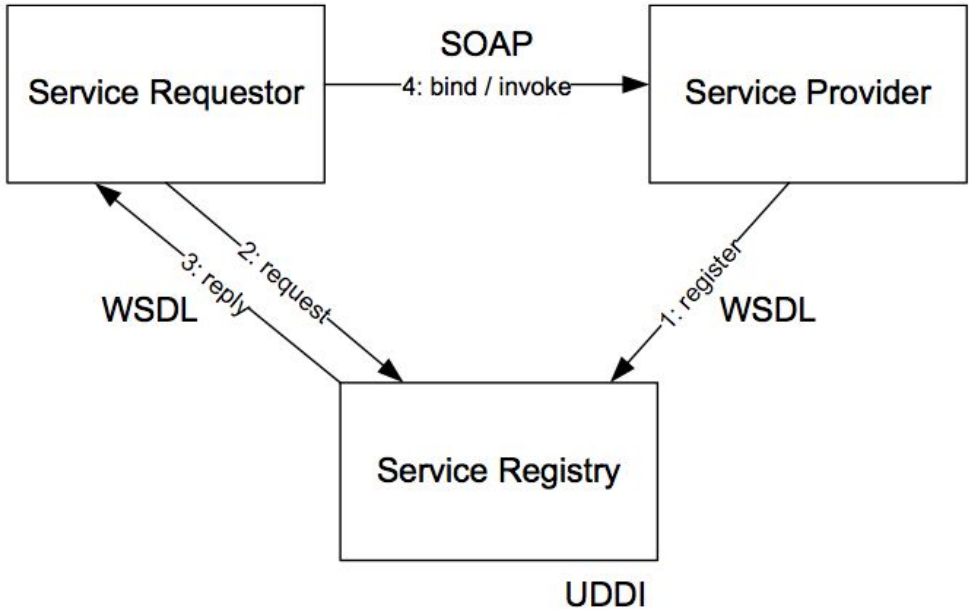

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Fig. 7.9. Main World Wide Web Consortium Web services recommendations

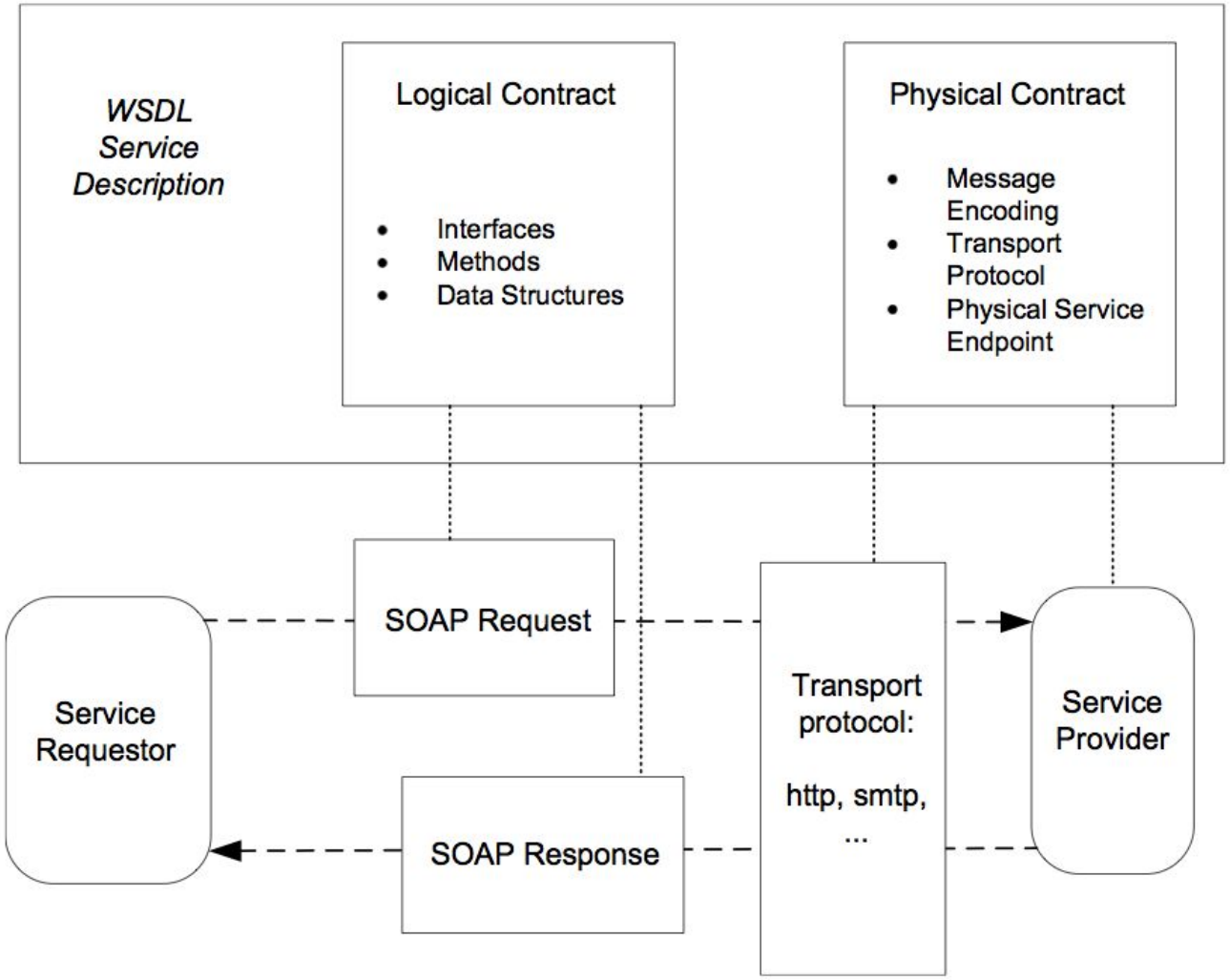

Fig. 7.10. Role of WSDL in Web service invocation

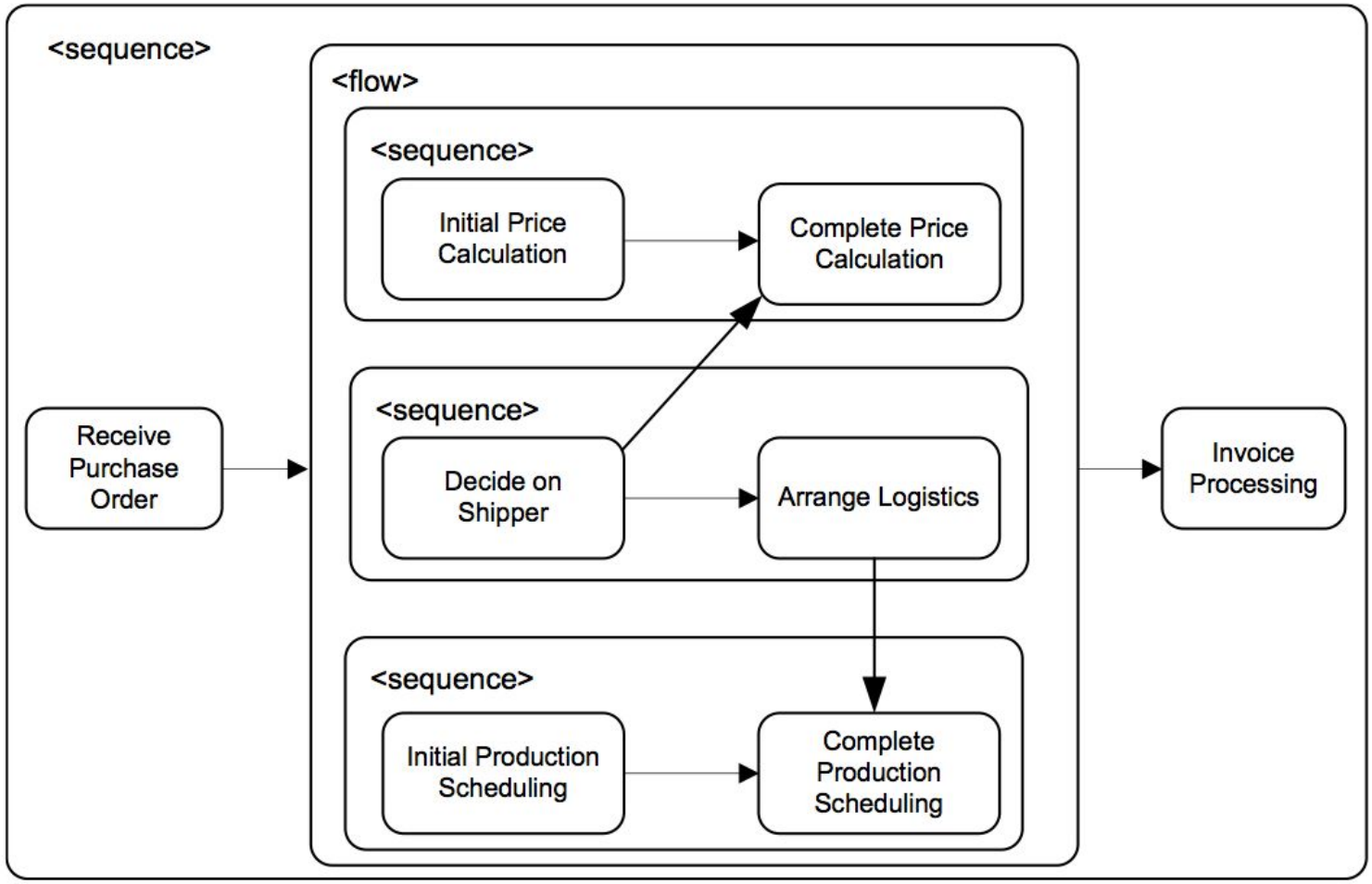

Fig. 7.11. Graphical representation of Web services composition in the WS-BPEL format

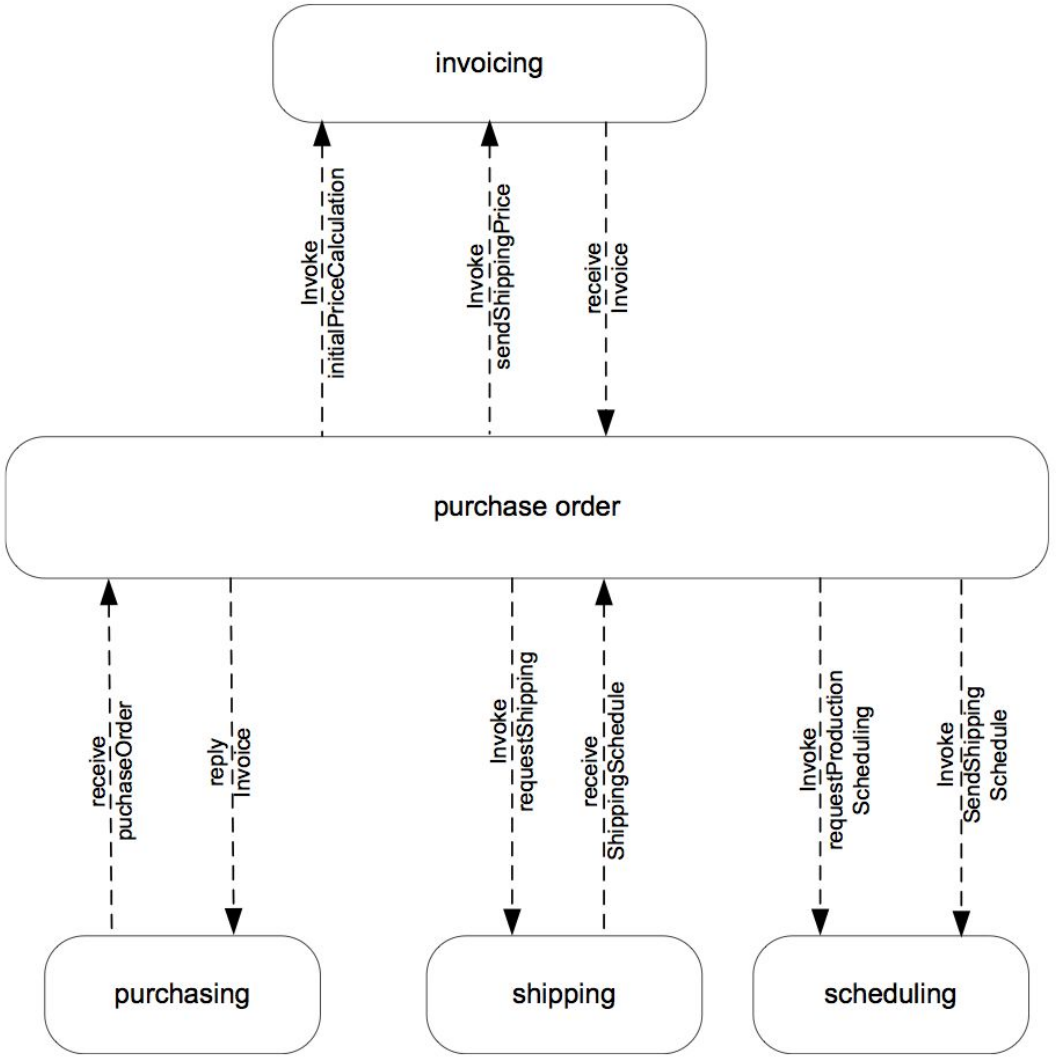

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Fig. 7.12. Communication behaviour of purchase order WS-BPEL process

```
sequence
// Receive Purchase Order, partner link purchasing
receive PO
flow
   // defining links between activities
   links
      link name = ship-to-invoice
      link name = ship-to-scheduling
   sequence
      // Decide on Shipper, partner link shipping
      invoke requestShipping(in: shippingRequest, out:shippingInfo)
         source ship-to-invoice
      // Arrange Logistics activity, partner link shipping
      receive shippingSchedule
         source ship-to-scheduling
   sequence
      // Initial Price Calculation, partner link invoicing
      invoke initialPriceCalculation (in: PO)
      // Complete Price Calculation, partner link invoicing
      invoke sendShippingPrice (in: shippingInfo)
         target ship-to-invoice
      // Receive invoice, partner link invoicing
      receive Invoice
   sequence
      // Initiate Production Scheduling, partner link scheduling
      invoke requestProductionScheduling (in: PO)
      // Complete Production Scheduling, partner link scheduling
      invoke sendShippingSchedule (in: shippingSchedule)
         target ship-to-scheduling
// Invoice Processing, partner link purchasing
reply Invoice
```


Fig. 7.13. Structure of Web services composition expressed in WS-BPEL (simplified)

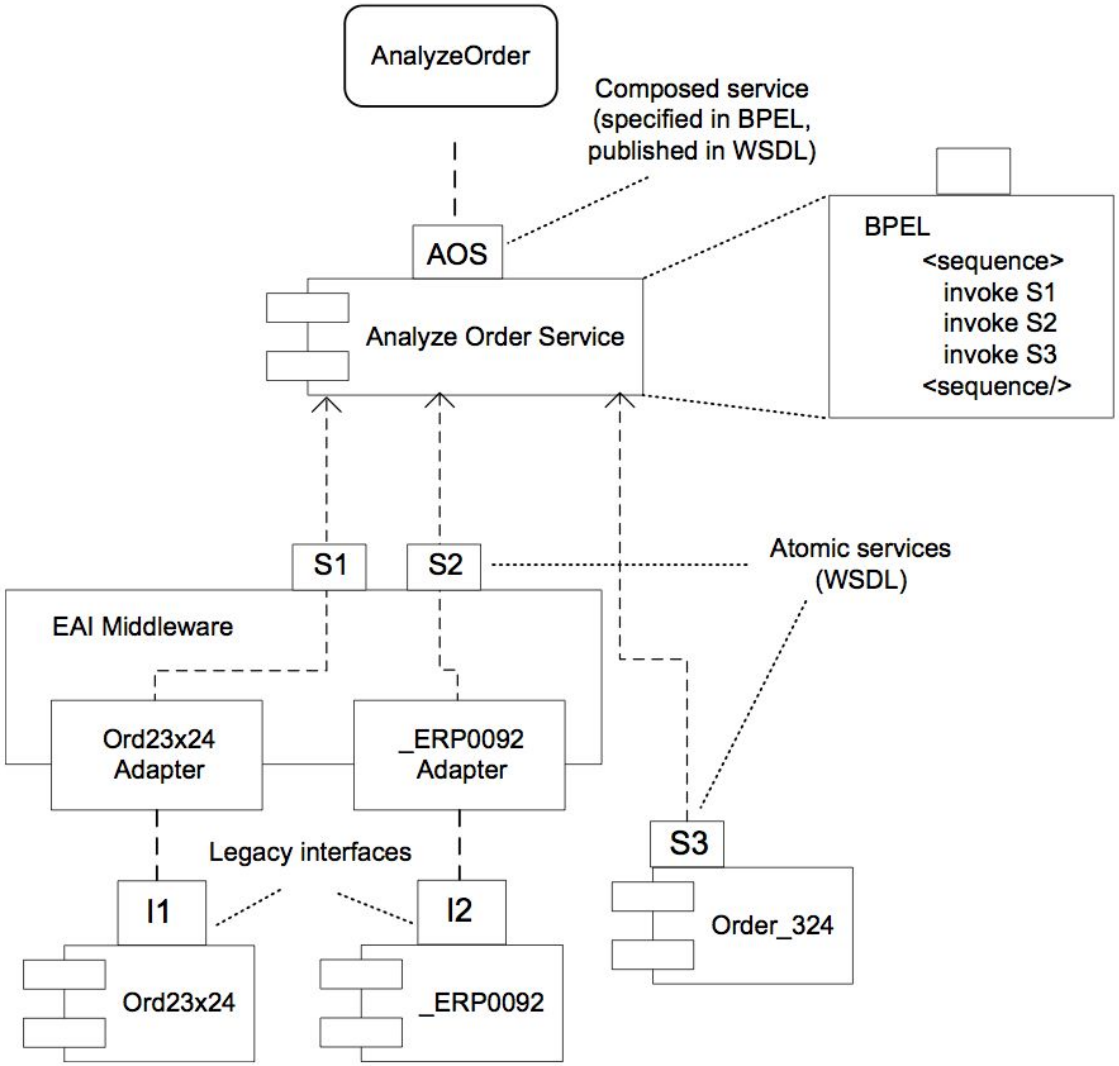

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Fig. 7.14. Web services standards in service-enabling

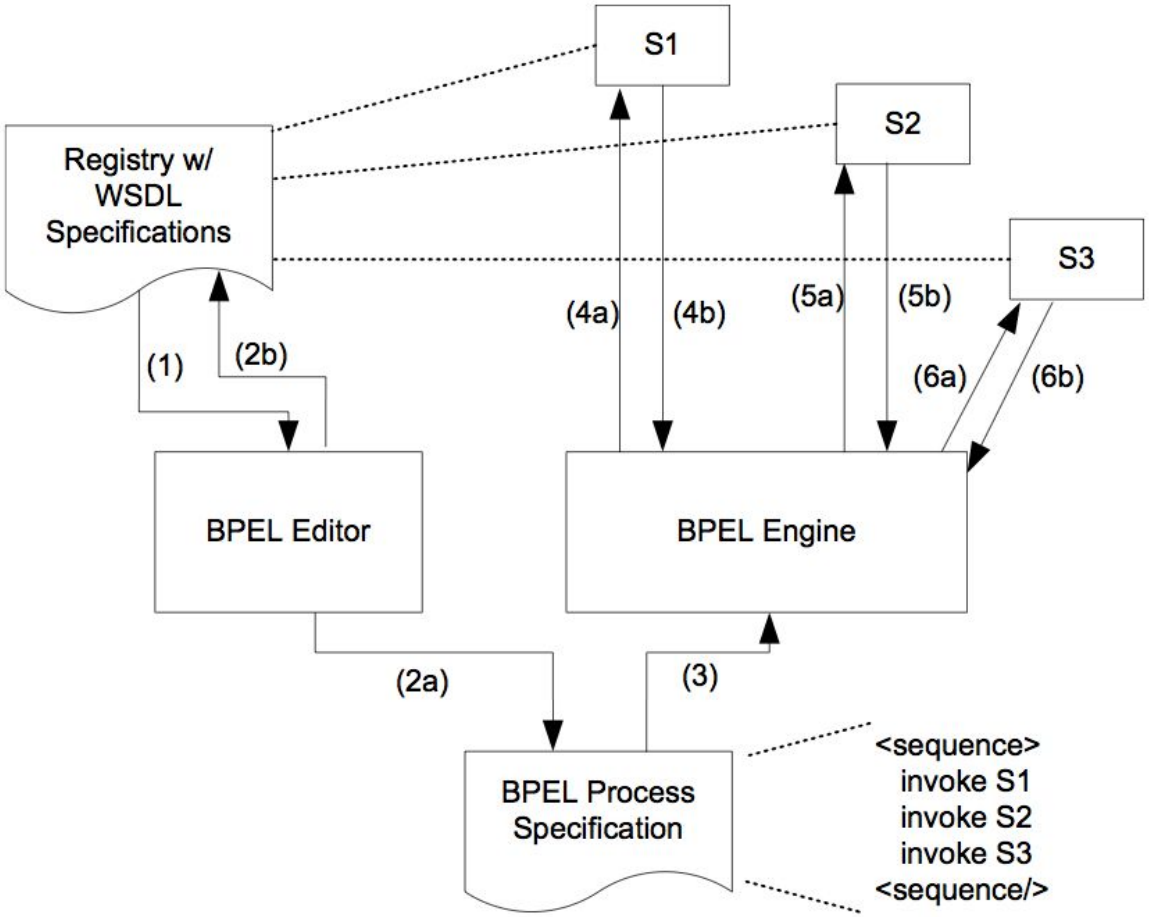

Fig. 7.15. Composed service design and enactment using Business Process Execution Language

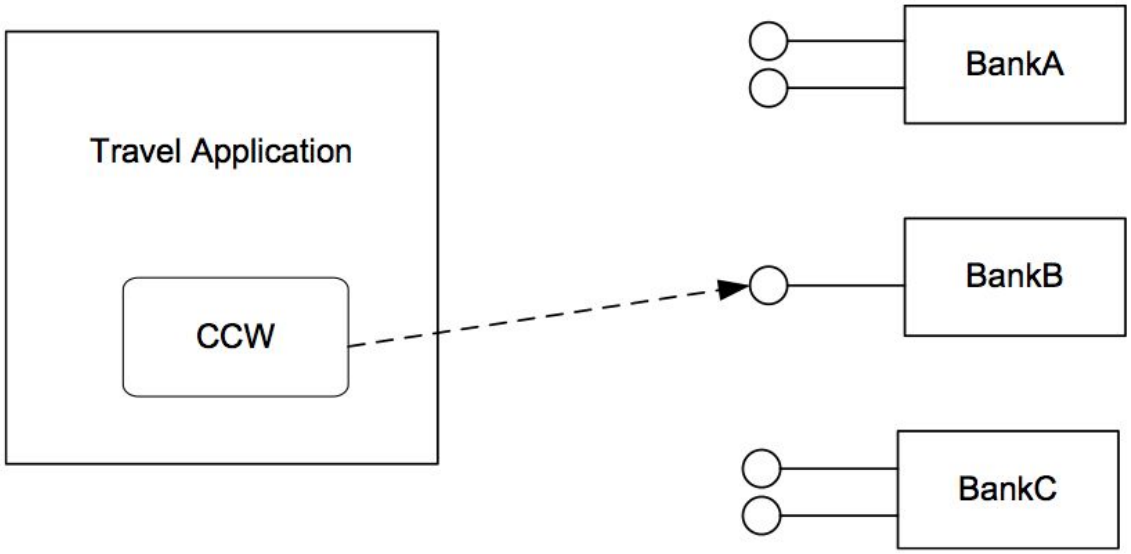

Fig. 7.16. Static binding: service provided by *BankB* coded in the travel application

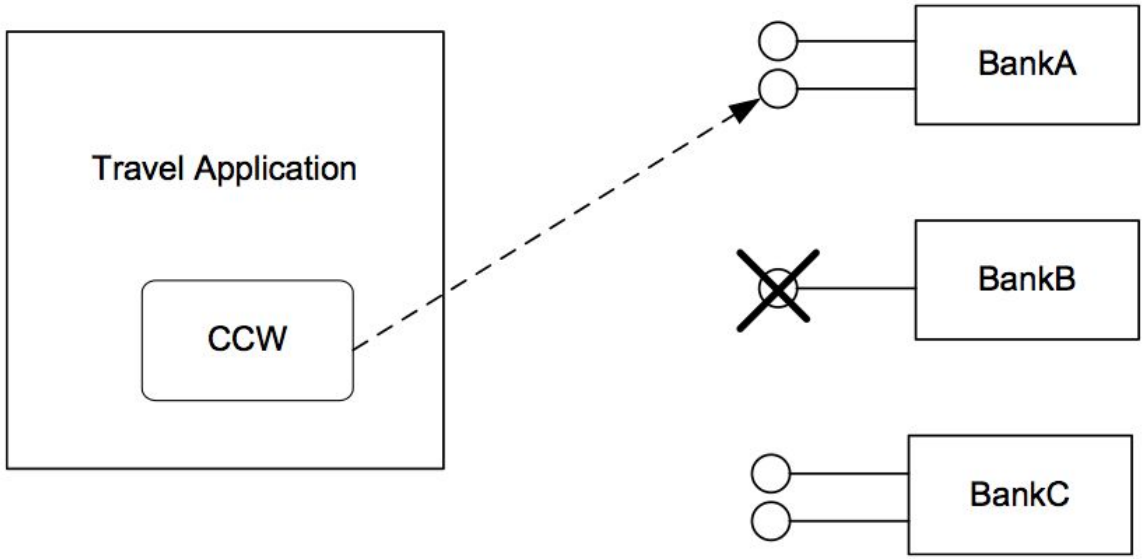

Fig. 7.17. Dynamic binding: service implementation by *BankA* is bound dynamically to travel application, due to failure of service implementation by *BankB*

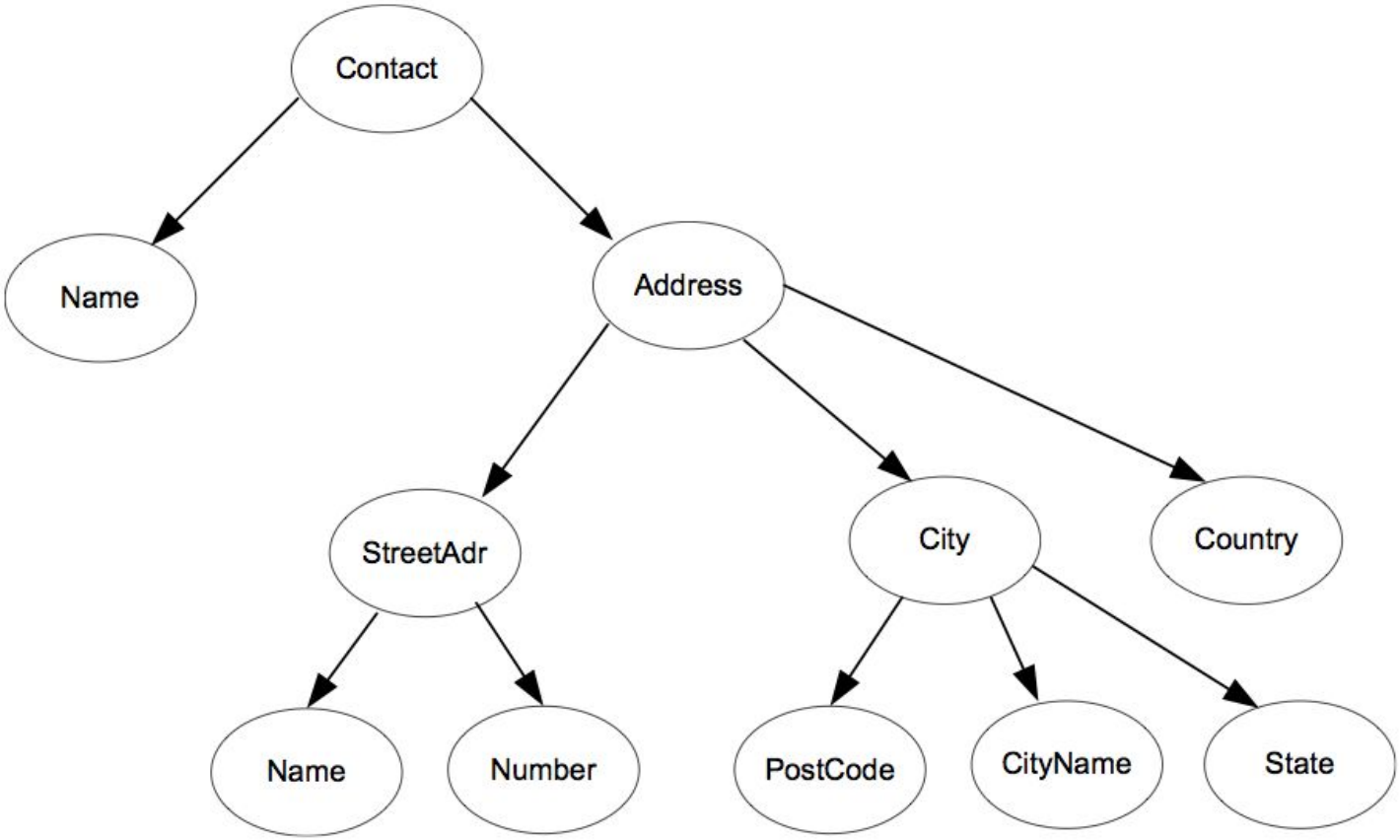

Fig. 7.18. Domain ontology for contacts

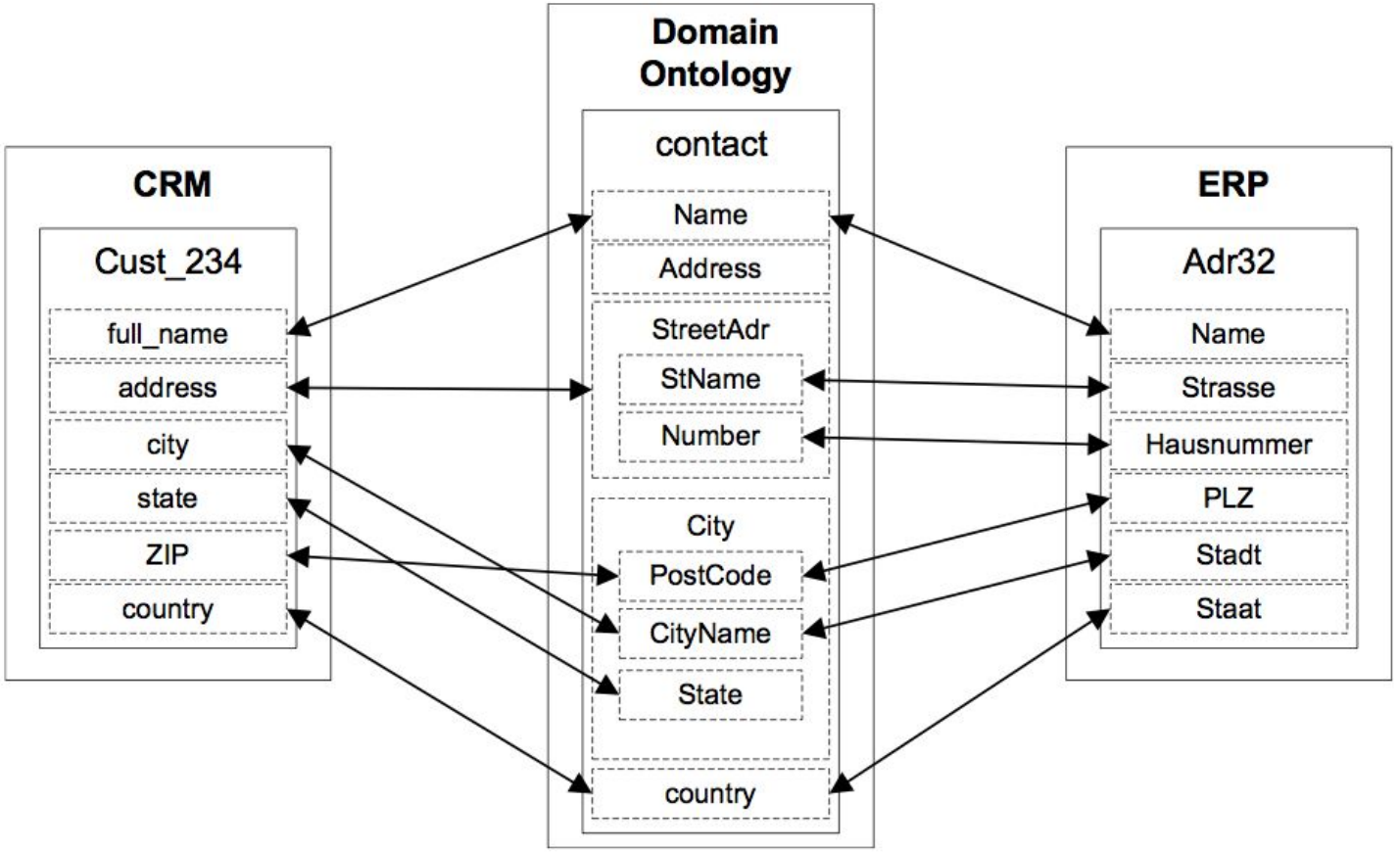

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Fig. 7.19. Domain ontology facilitates data mapping, Kuropka et al. (2006)

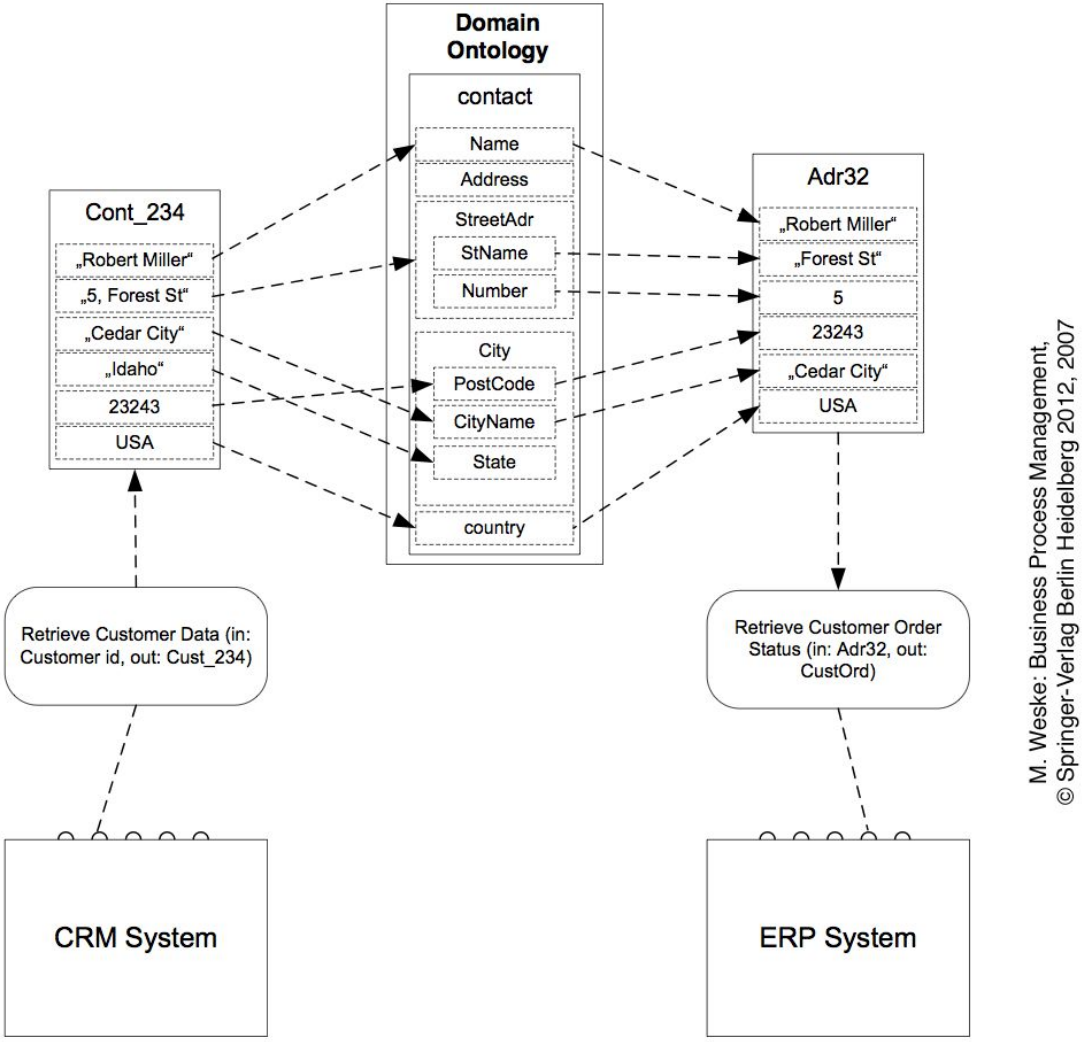

Fig. 7.20. Domain ontology used for automatic data mapping of CRM customer data to ERP customer data

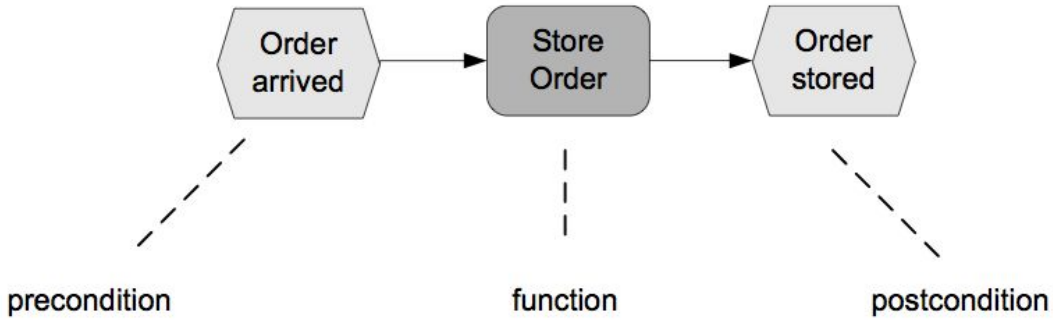

Fig. 7.21. Precondition and postcondition, expressed in event-driven process chain

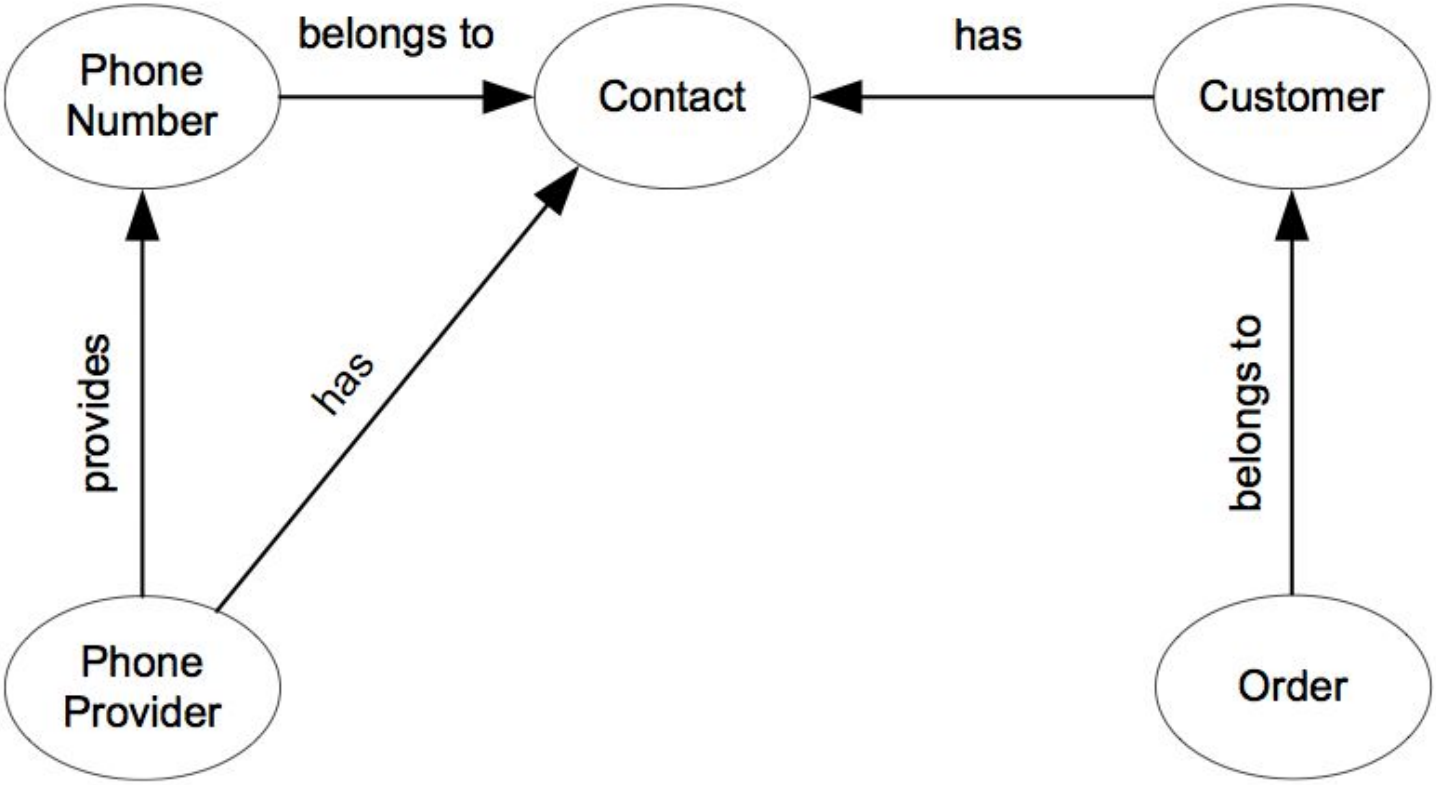

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Fig. 7.22. Domain ontology of call centre example

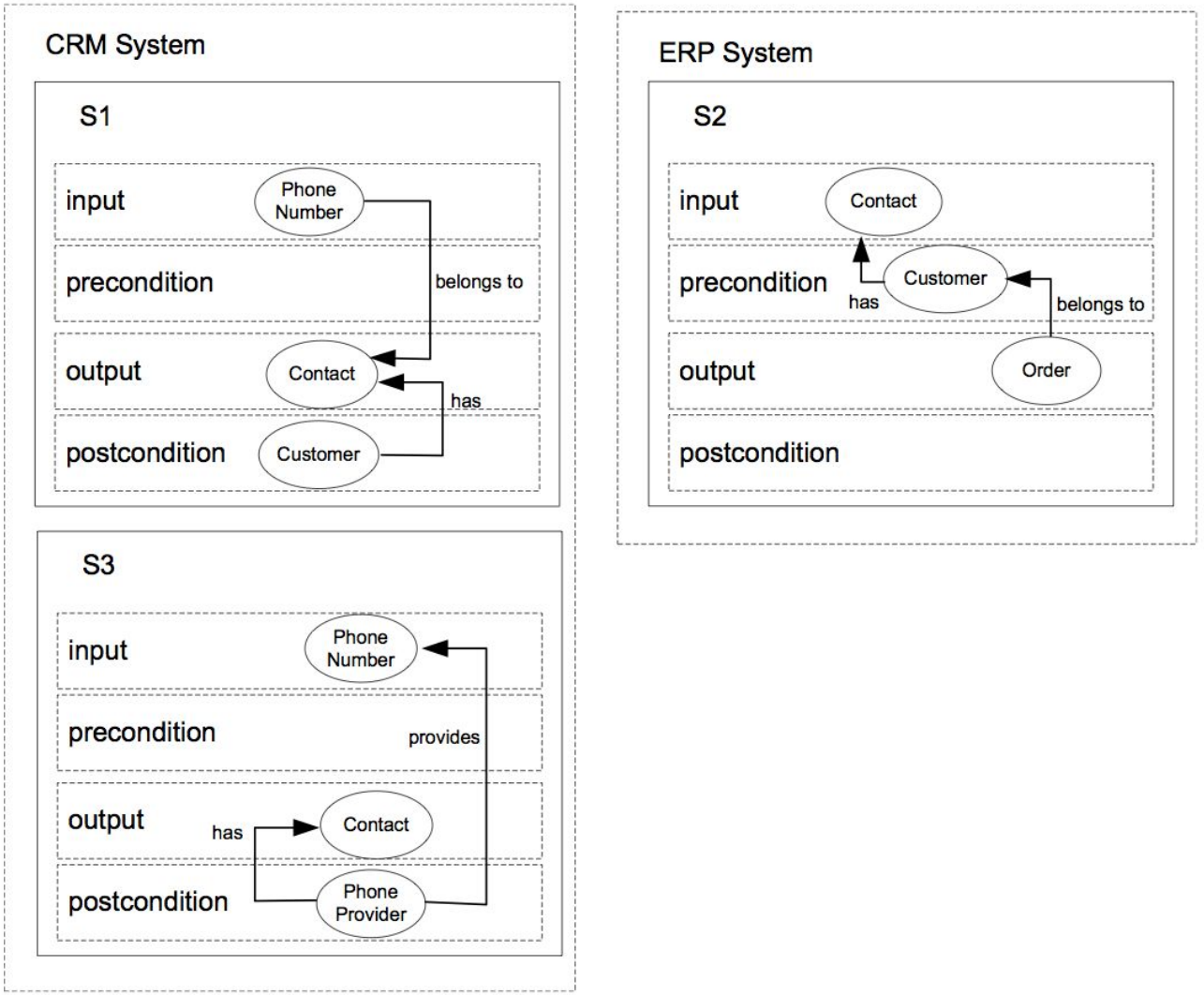

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Fig. 7.23. Semantic specification of services

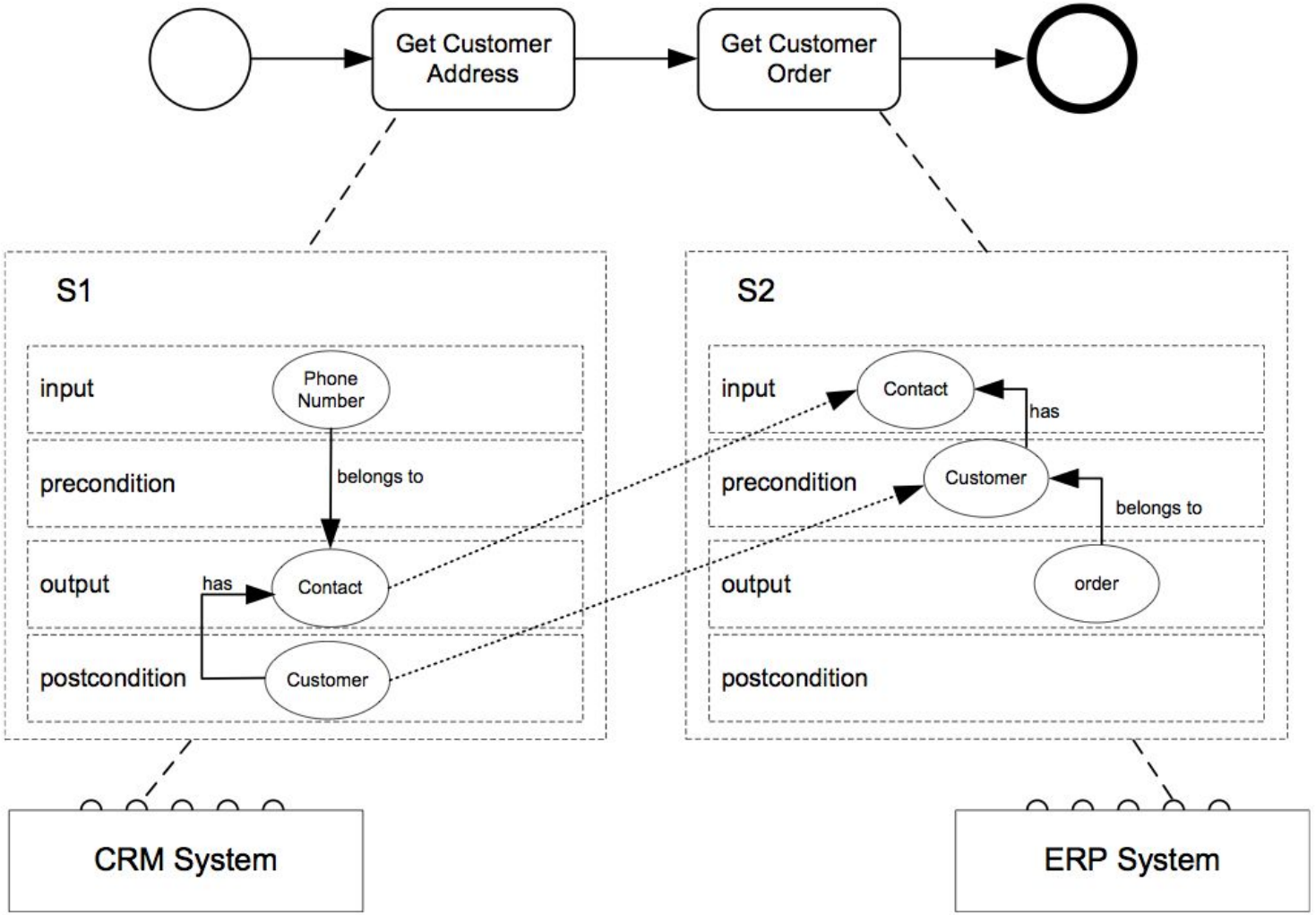

Fig. 7.24. Semantic service composition

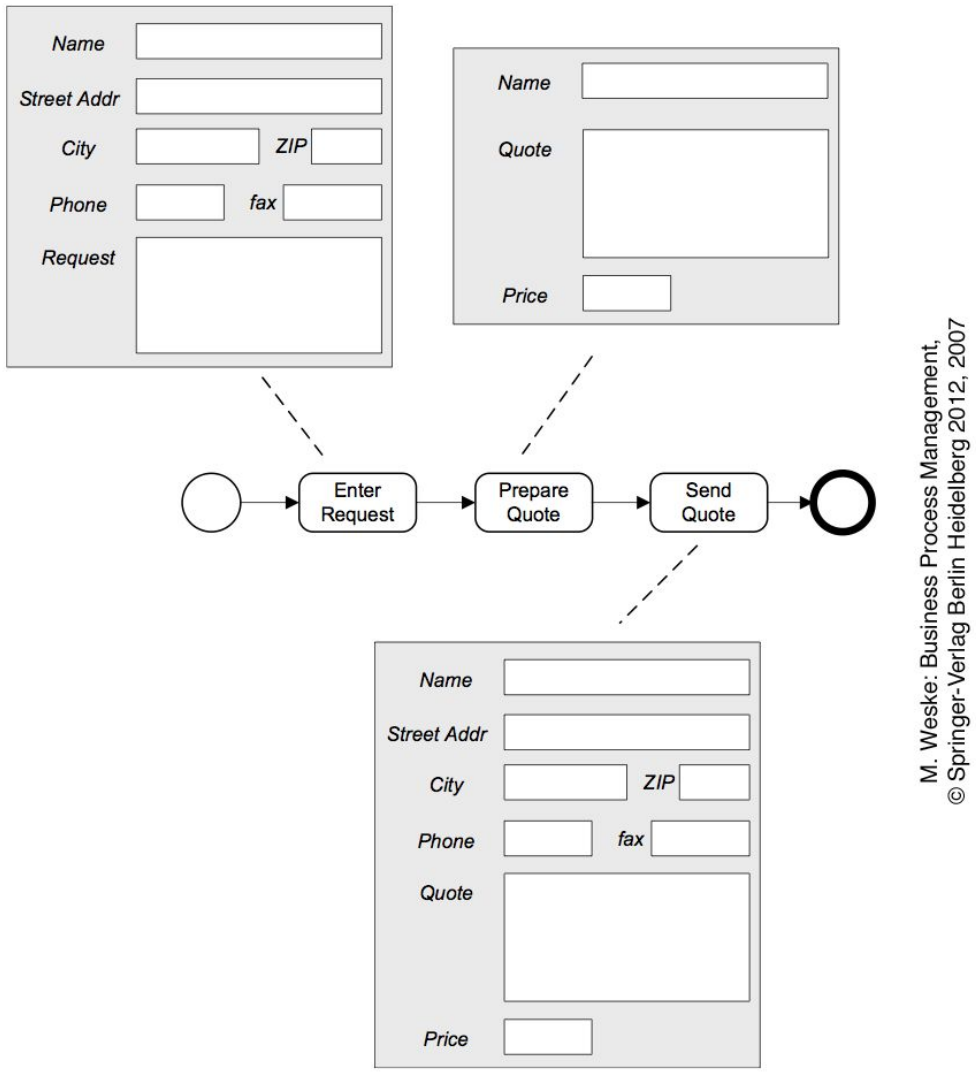

Fig. 7.25. Motivating example case handling

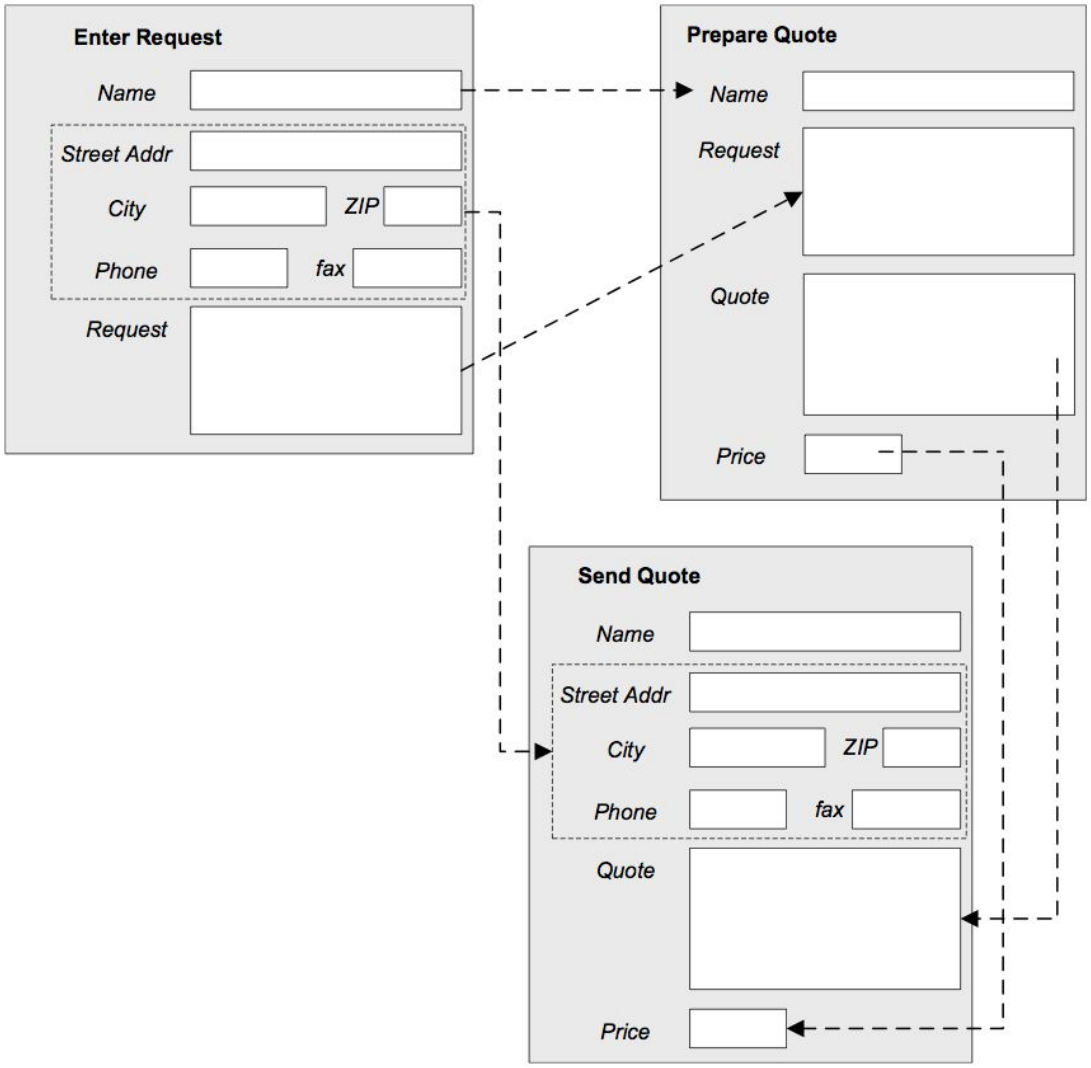

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Fig. 7.26. Data dependencies in case handling example

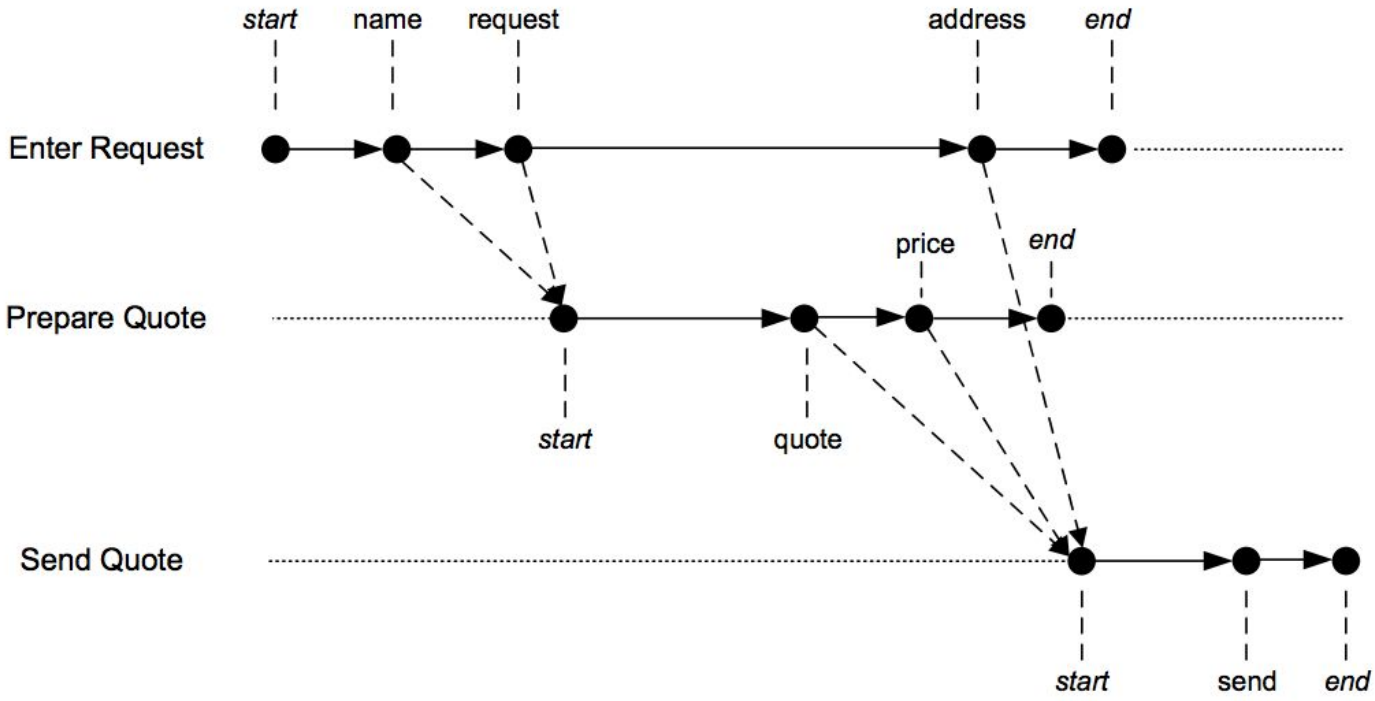

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Fig. 7.27. Temporal behaviour in case handling example: overall execution time is reduced, since prepare quote can start before enter request is completed

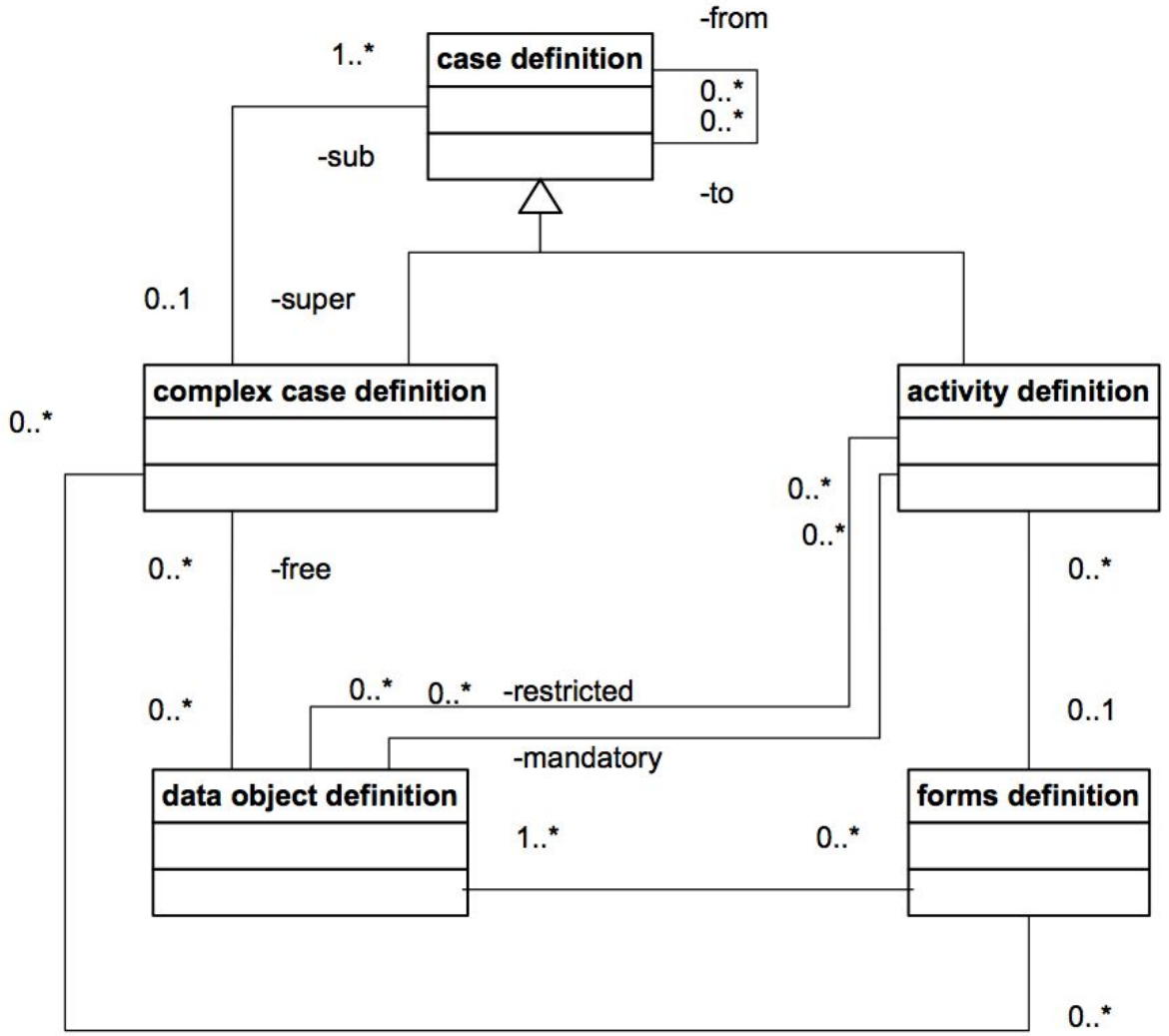

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Fig. 7.28. Case metamodel, simplified version without roles

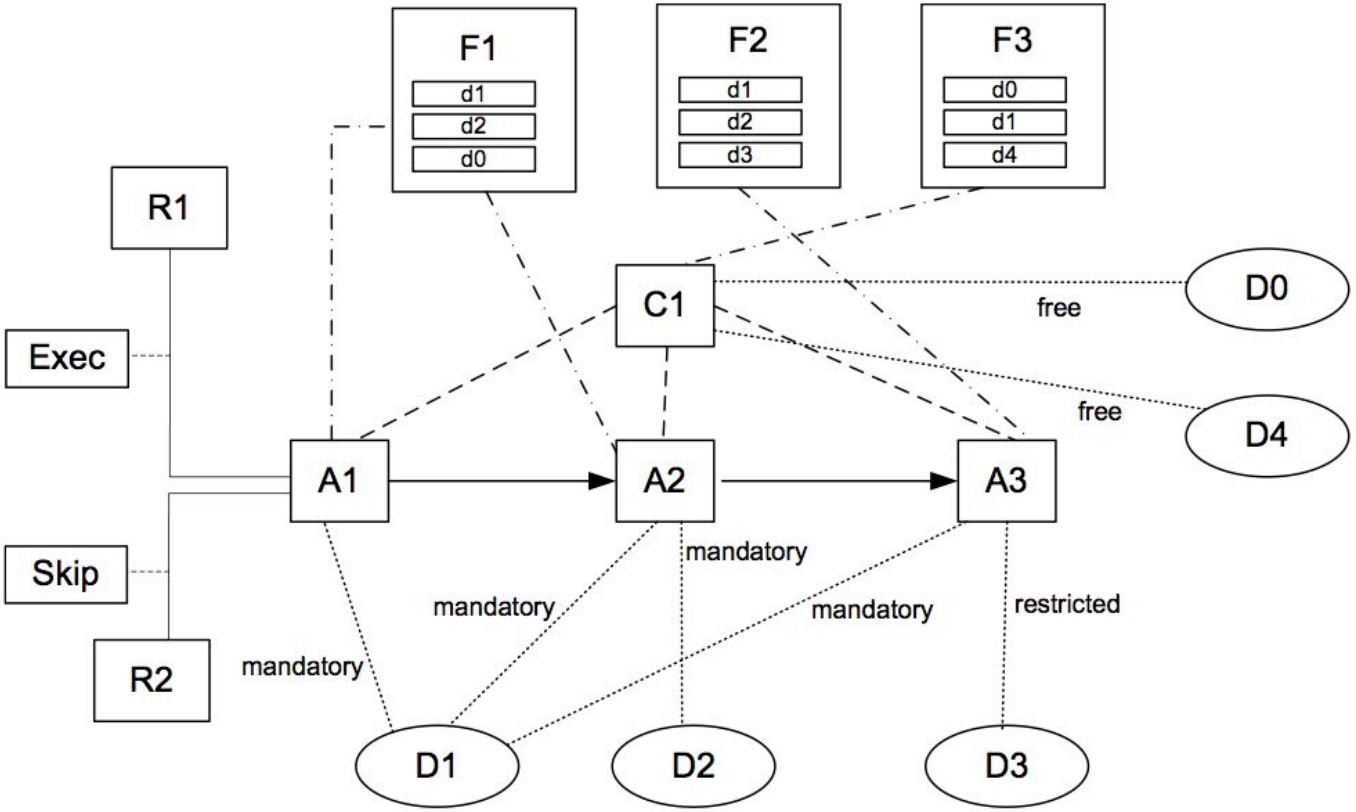

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Fig. 7.29. Abstract example to illustrate case handling metamodel, van der Aalst et al. (2005b)