

Business Process Management: Concepts, Languages, Architectures

Second Edition

Mathias Weske

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Mathias Weske

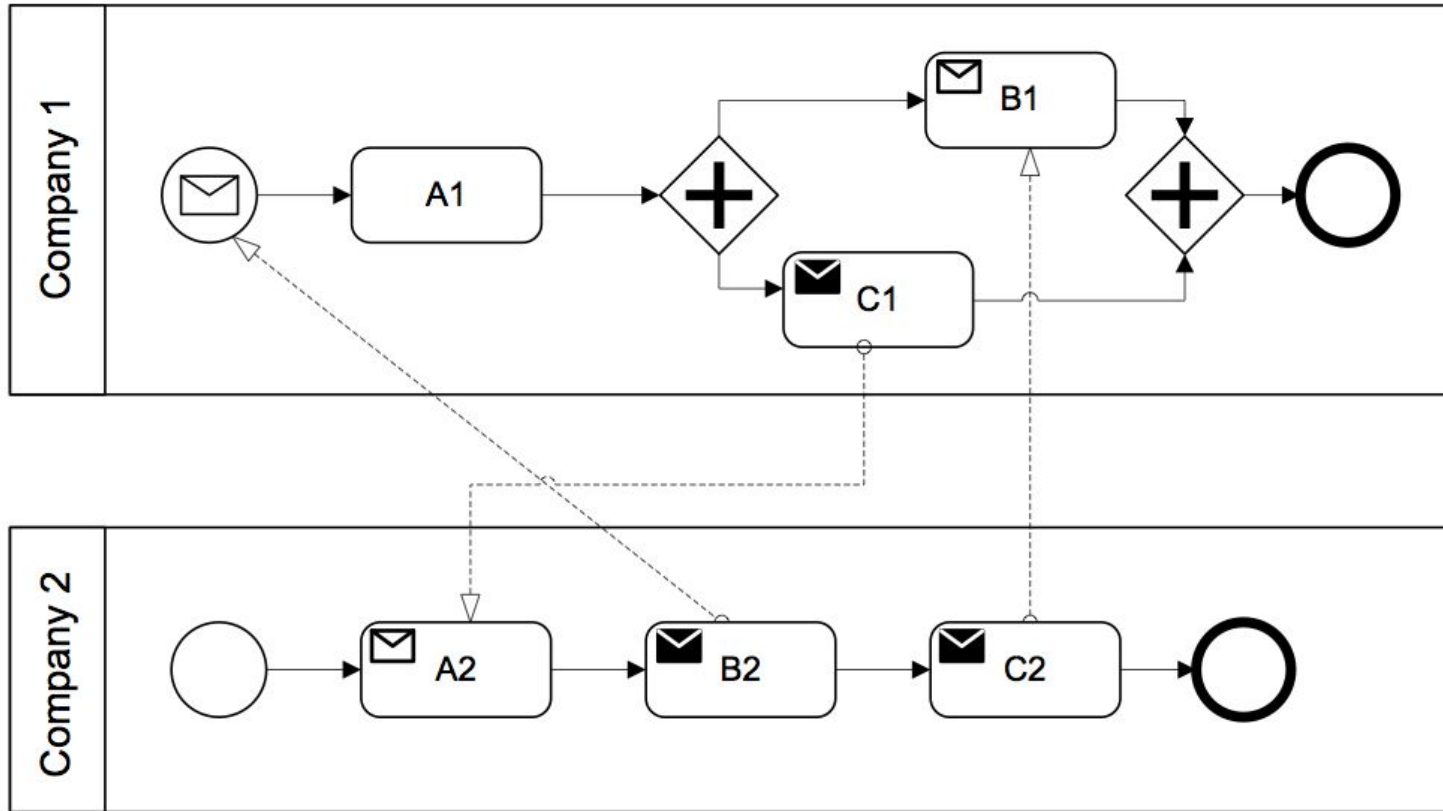
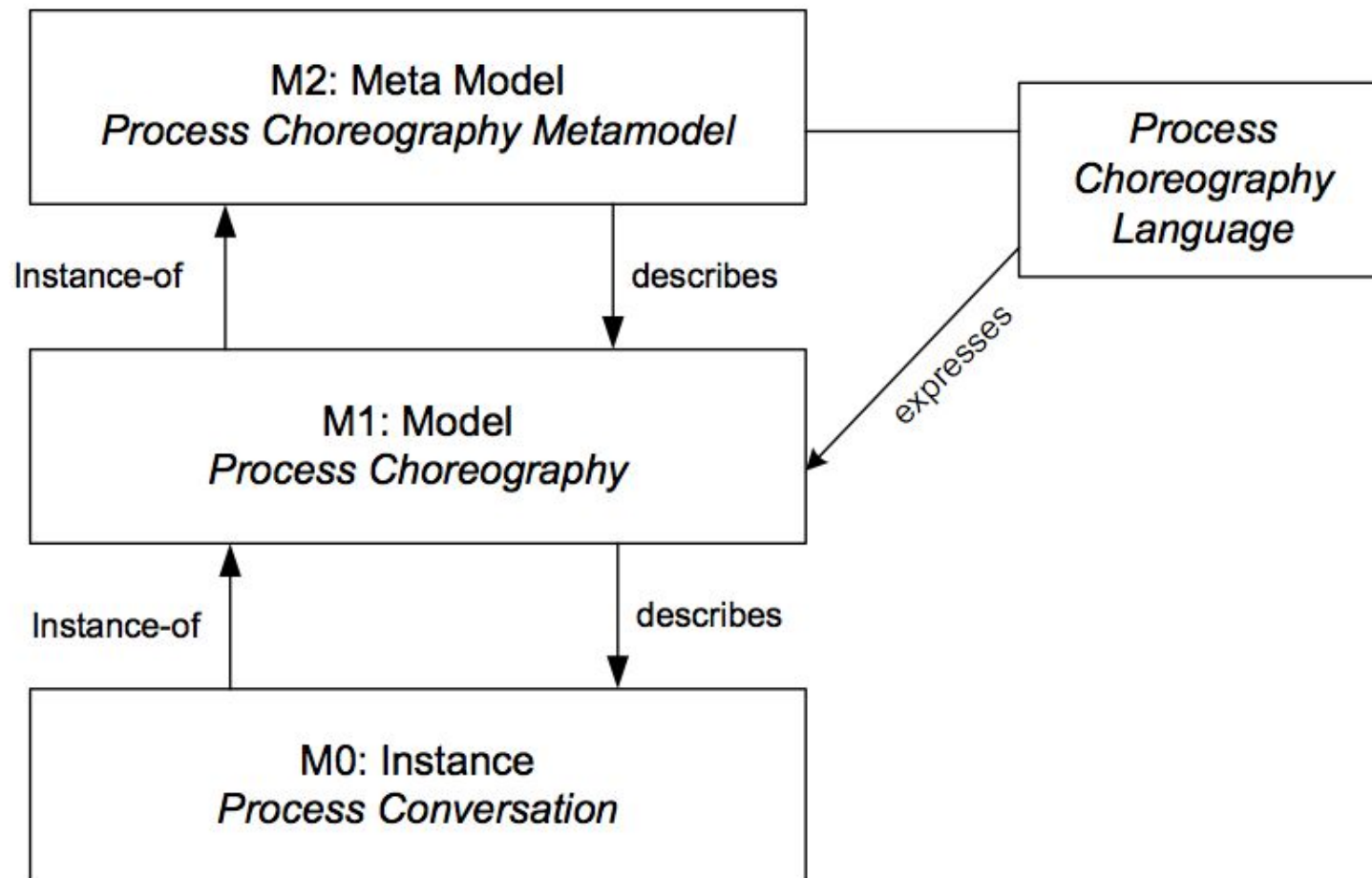


Fig. 5.1. Deadlock of interacting process orchestrations



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Fig. 5.2. MOF levels of process choreographies

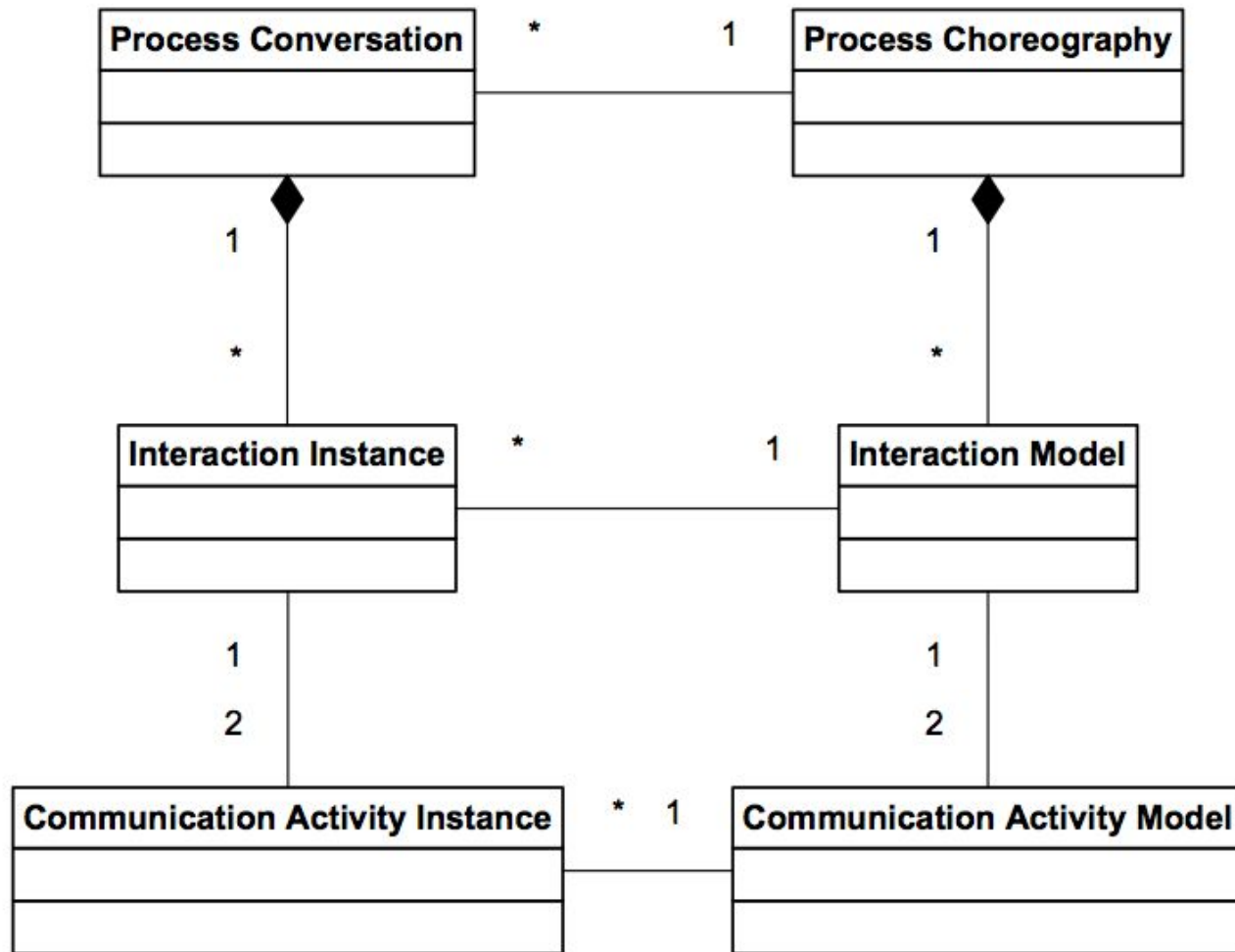
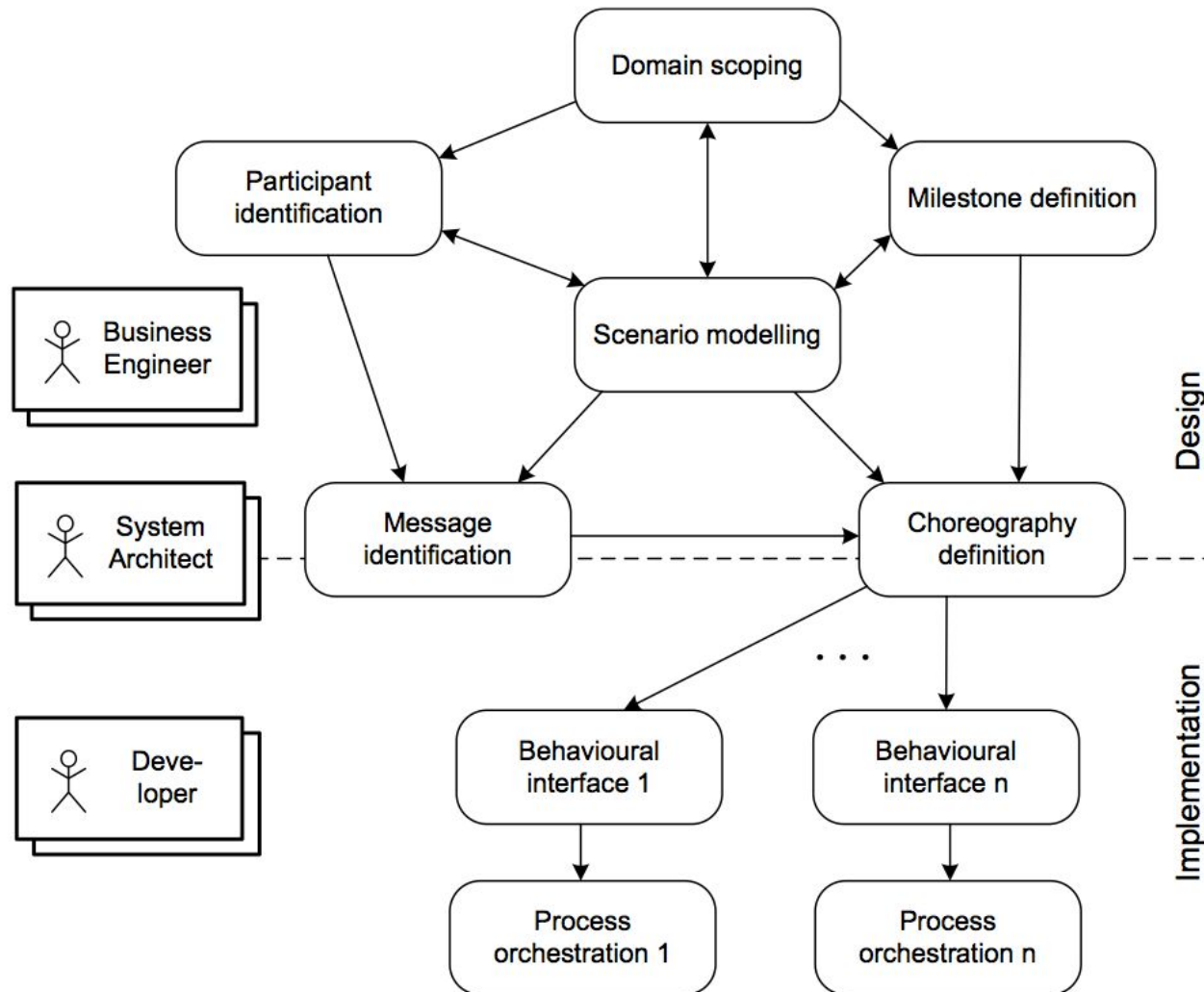


Fig. 5.3. Process choreography conceptual model



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Fig. 5.4. Phases during choreography design and implementation

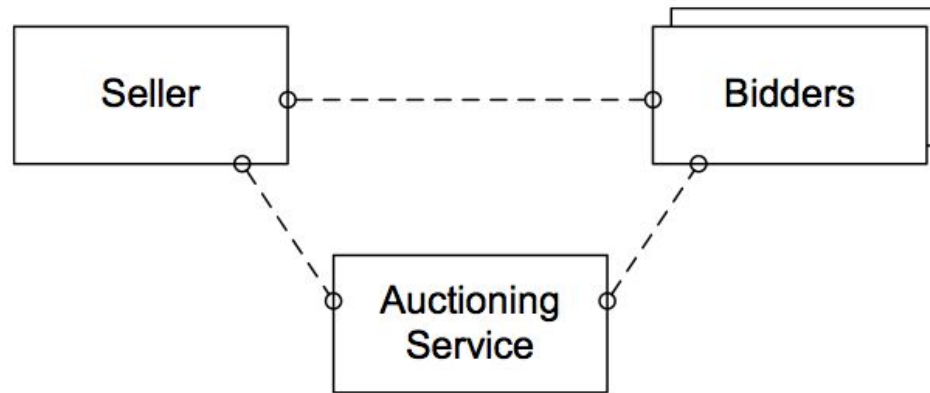


Fig. 5.5. High-level structural model of participants in bidding scenario

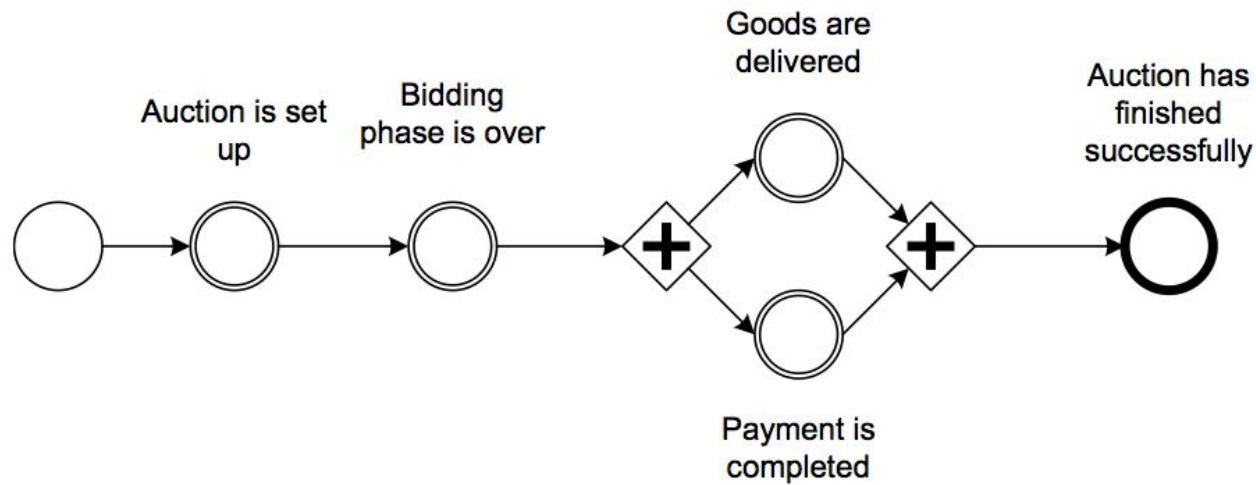


Fig. 5.6. High-level behavioural model for bidding scenario, represented by milestones

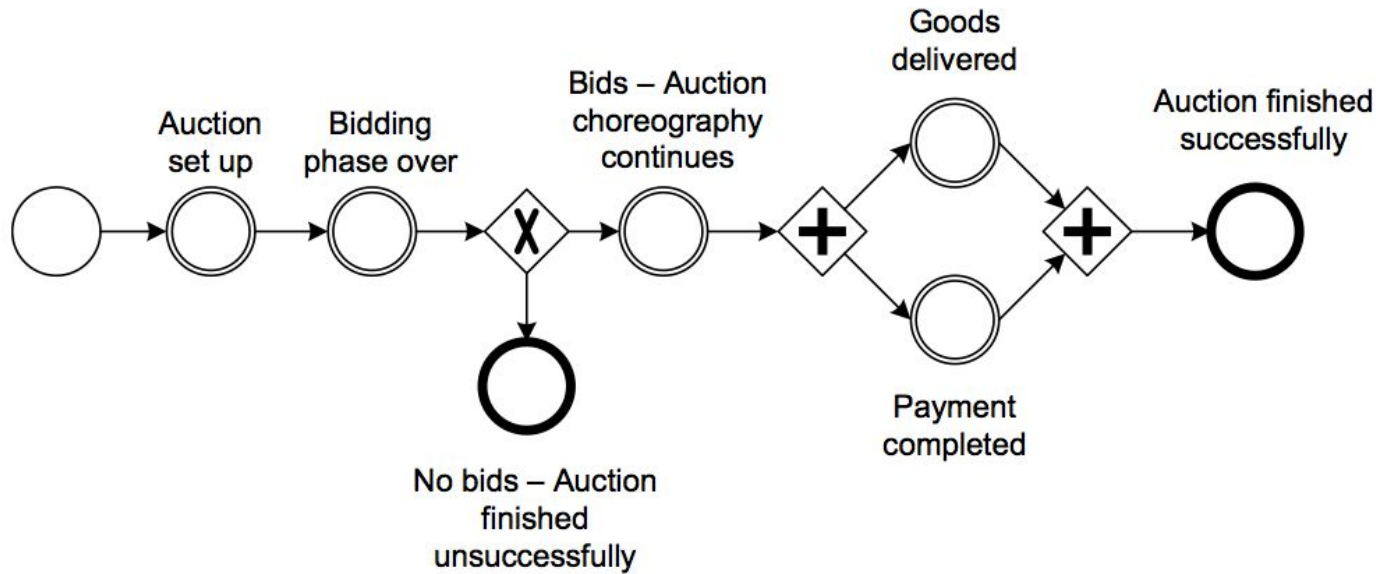
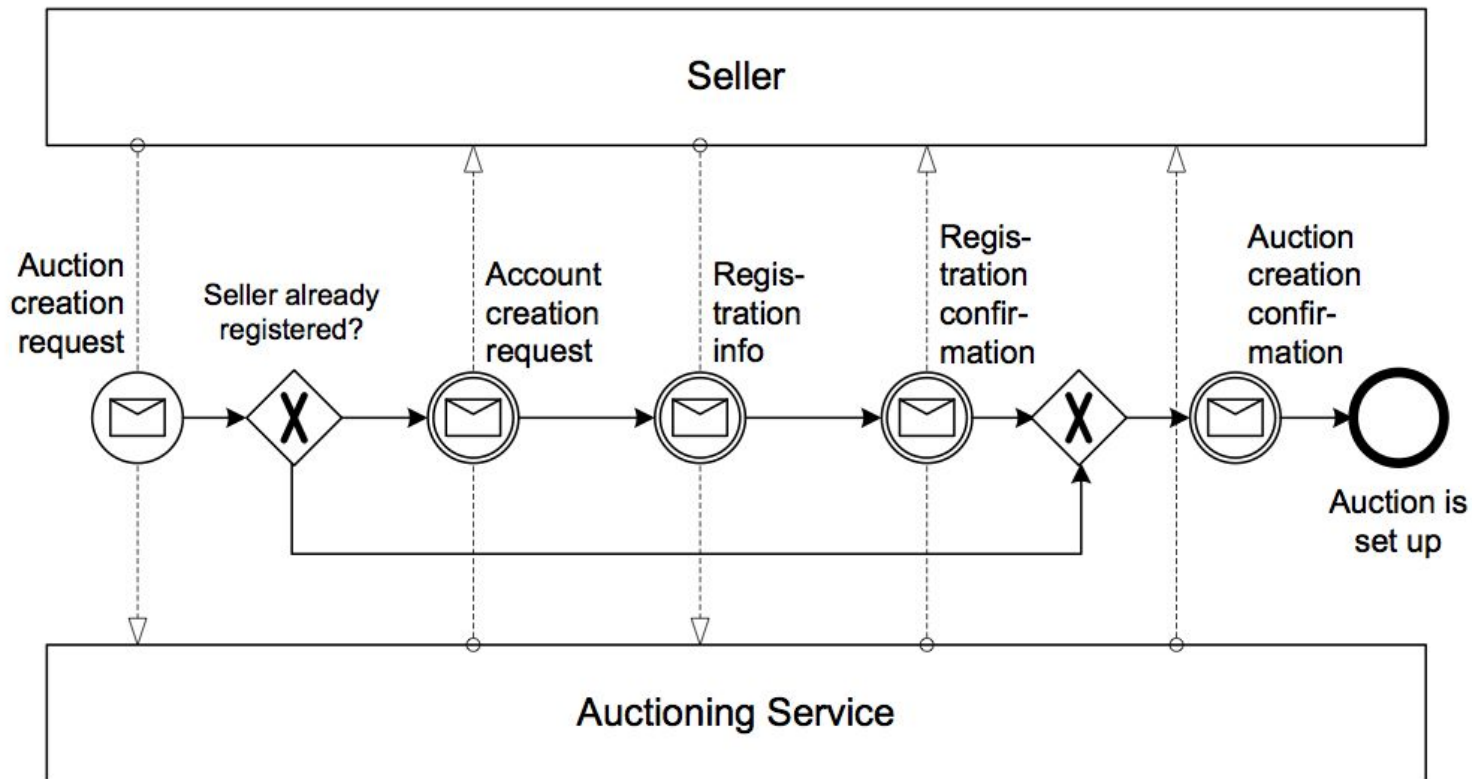


Fig. 5.7. High-level behavioural model for bidding scenario, with different outcomes



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Fig. 5.8. Collaboration scenario: reaching milestones through interactions

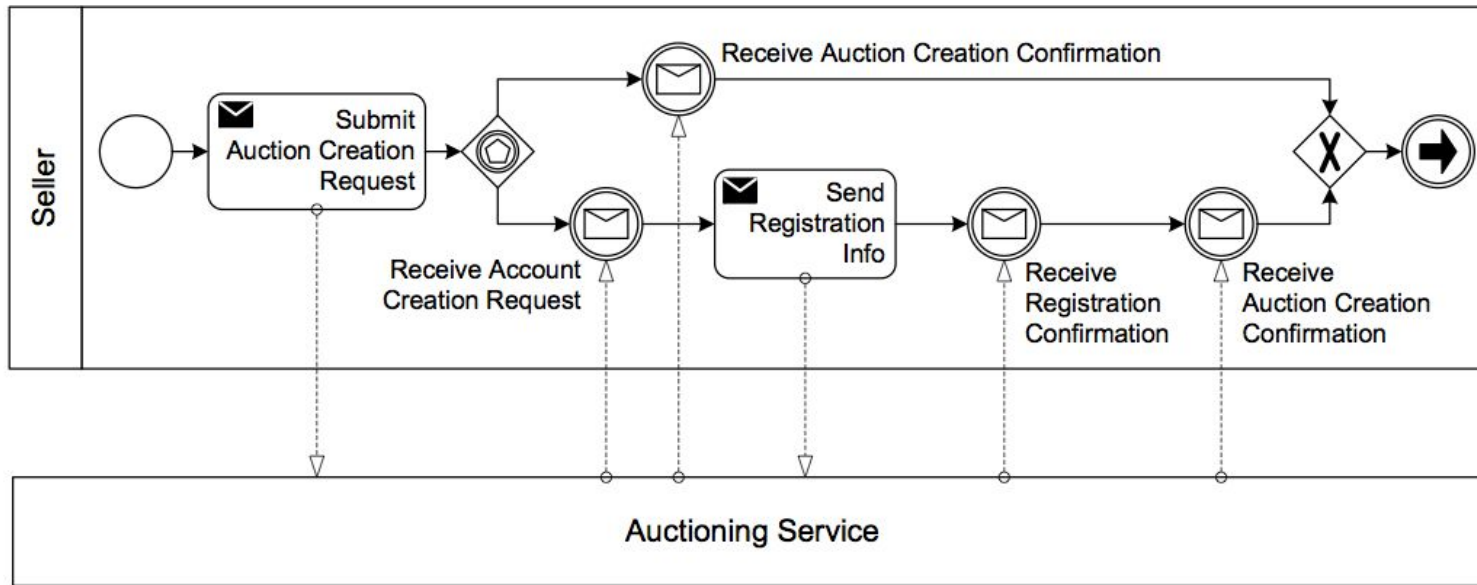
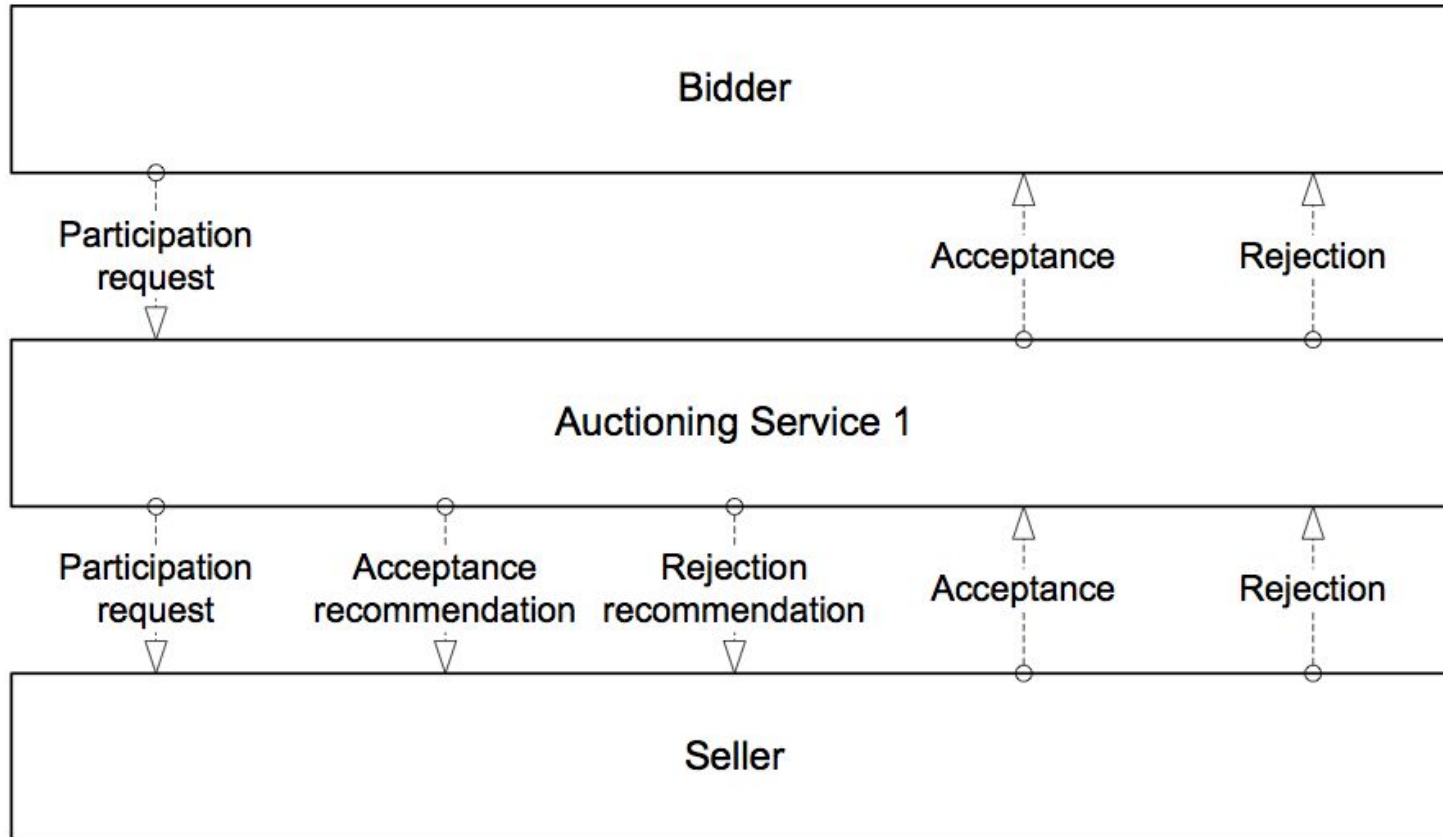
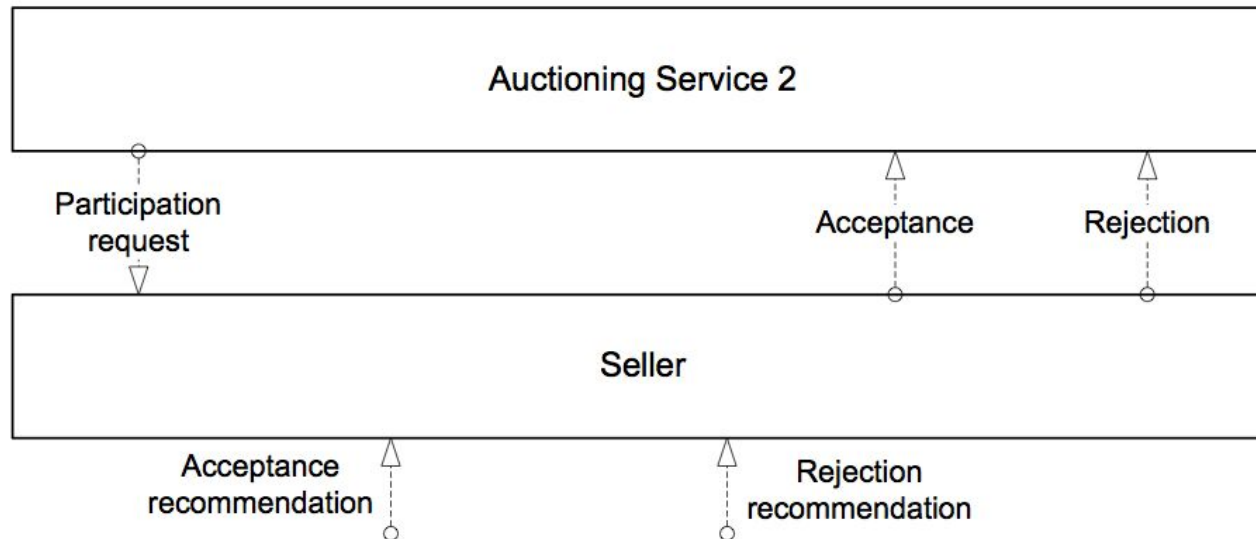


Fig. 5.9. Behavioural interface for seller



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Fig. 5.10. Interactions of participants in auctioning scenario



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Fig. 5.11. Alternative auctioning service results in weak structural compatibility

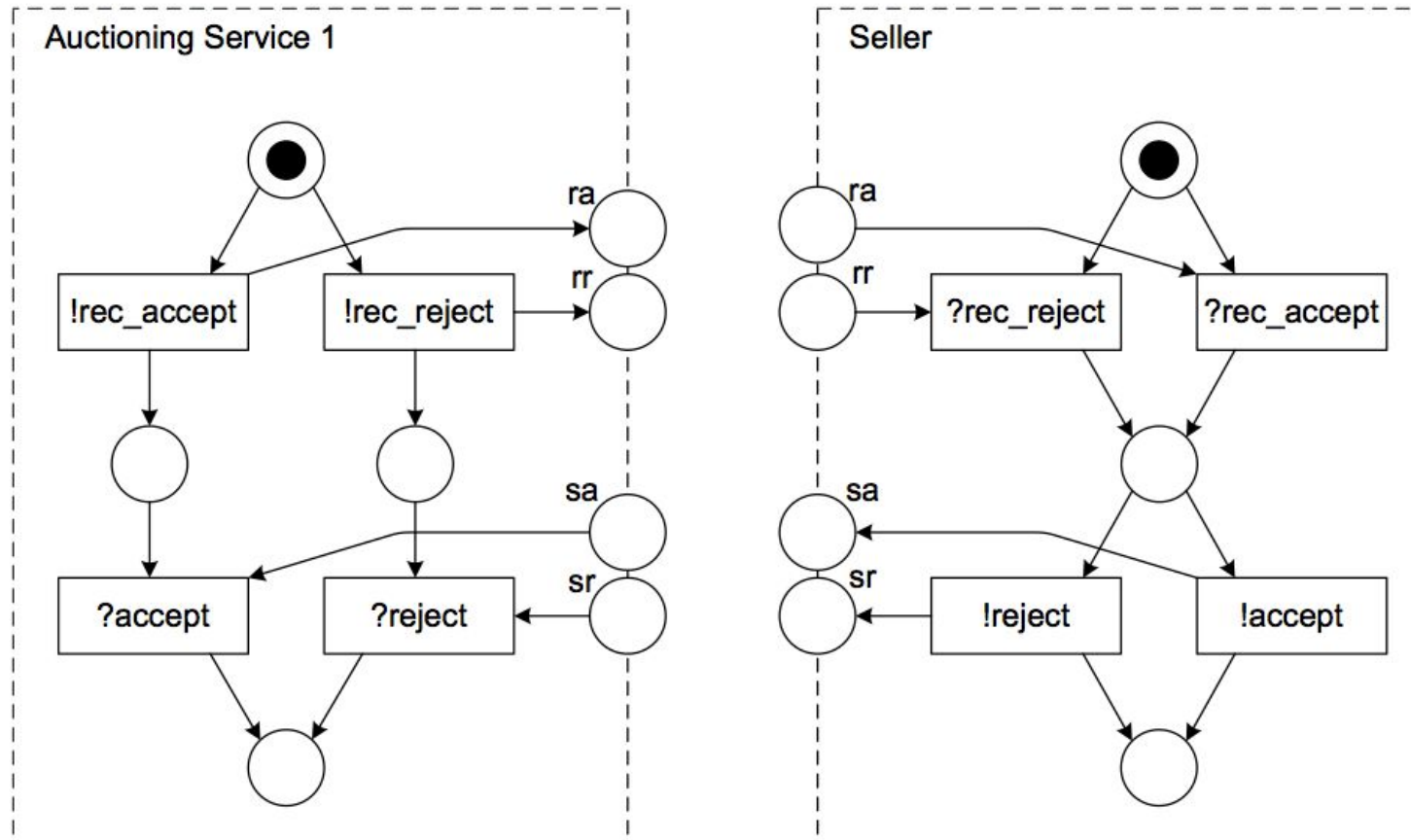
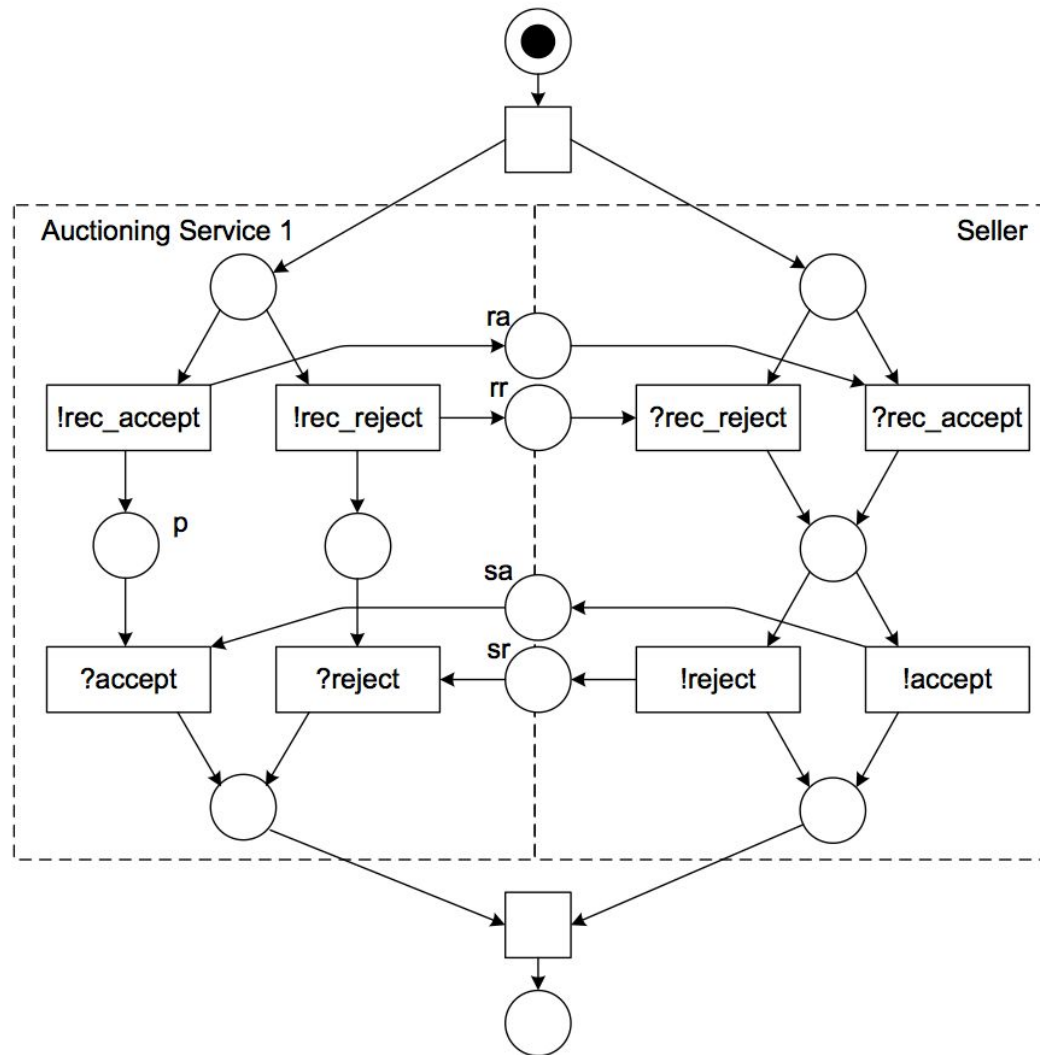
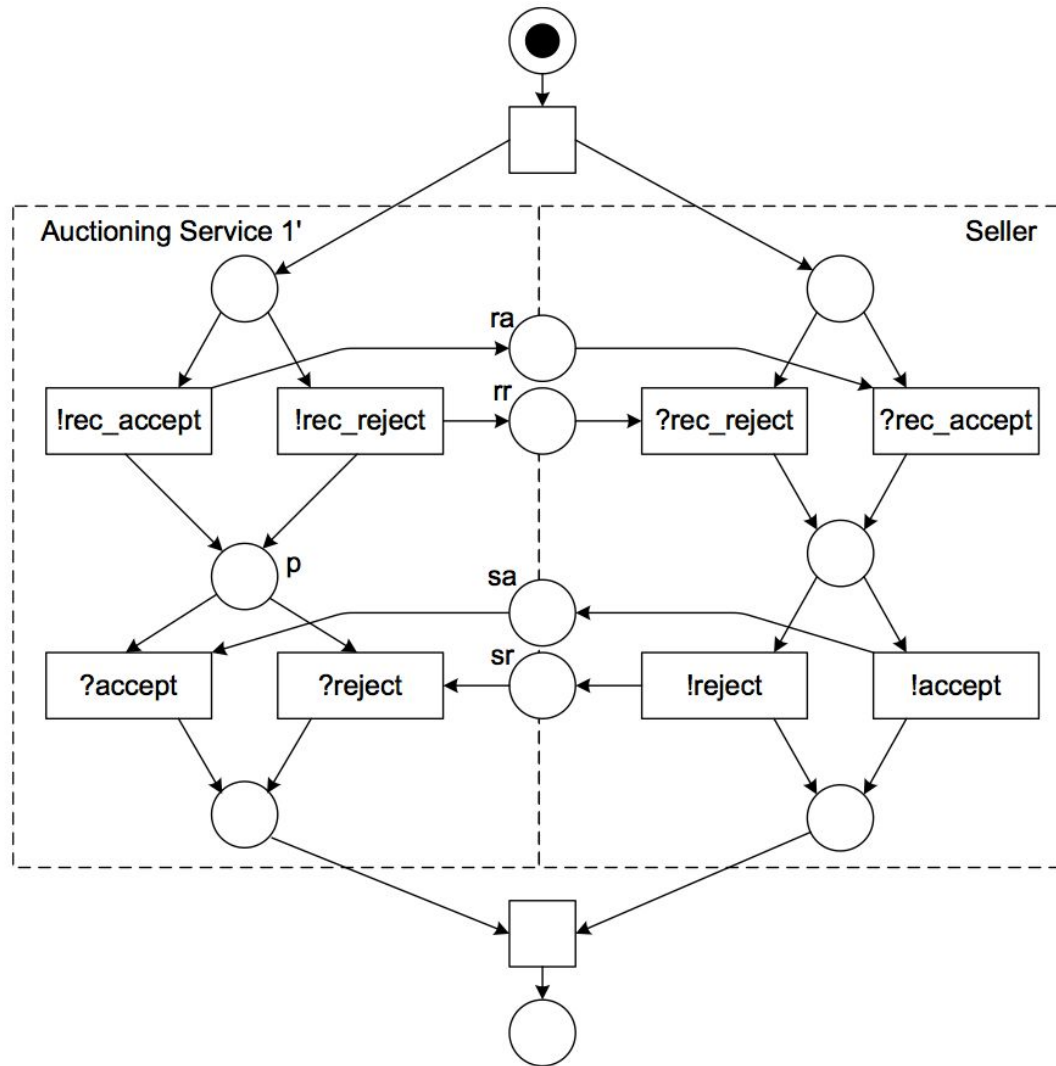


Fig. 5.12. Workflow modules as basis for checking compatibility



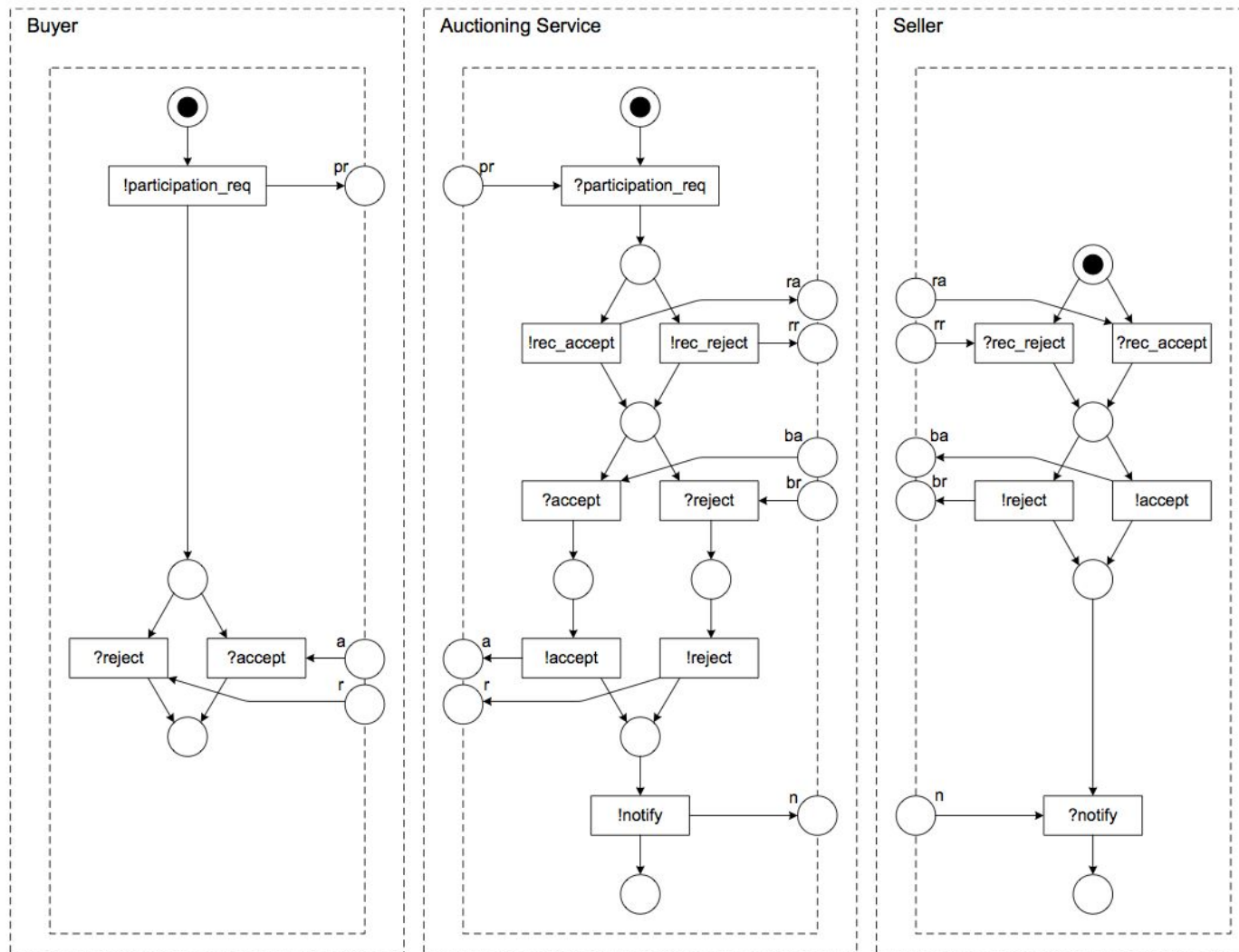
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Fig. 5.13. Workflow net as composition of workflow modules



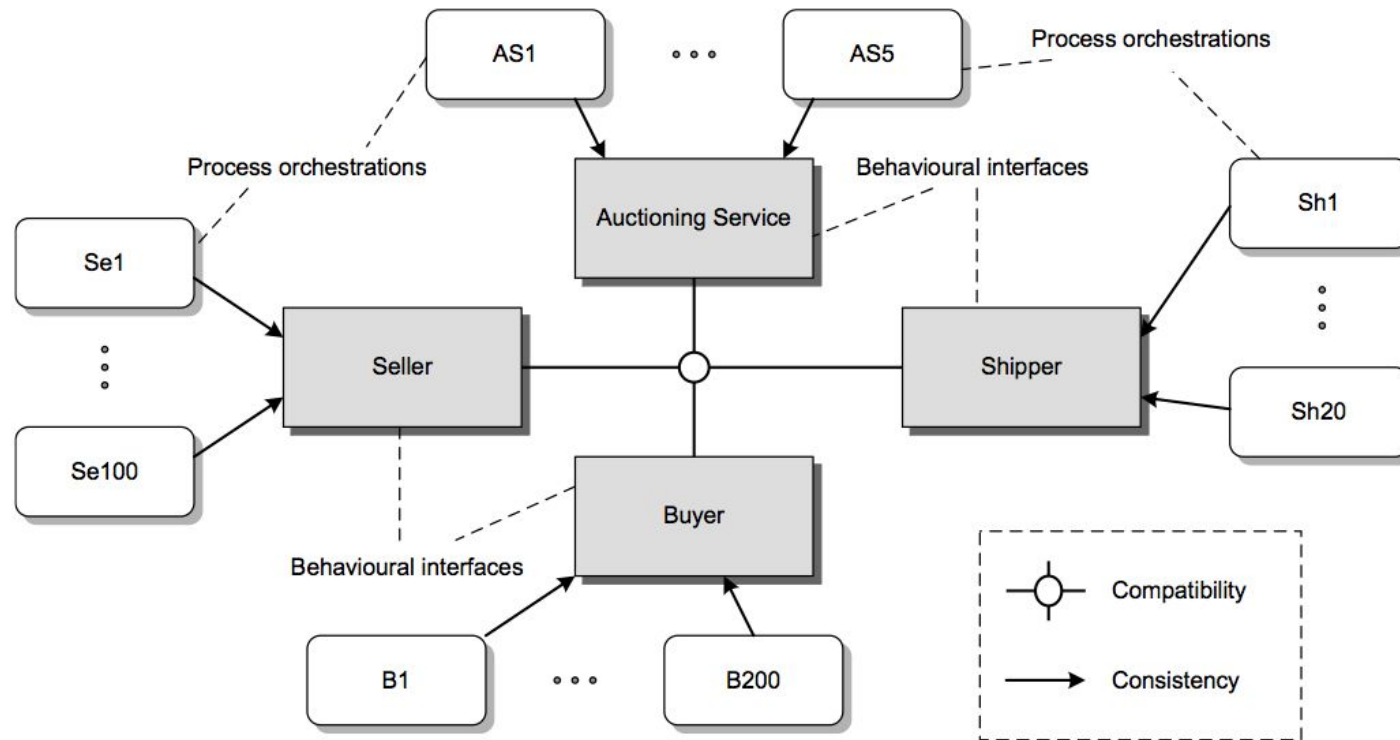
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Fig. 5.14. Workflow modules that are compatible



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Fig. 5.15. Behavioural interfaces: getting a participation permission



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Fig. 5.16. Participants roles with compatibility and consistency relations in a reverse auctioning scenario

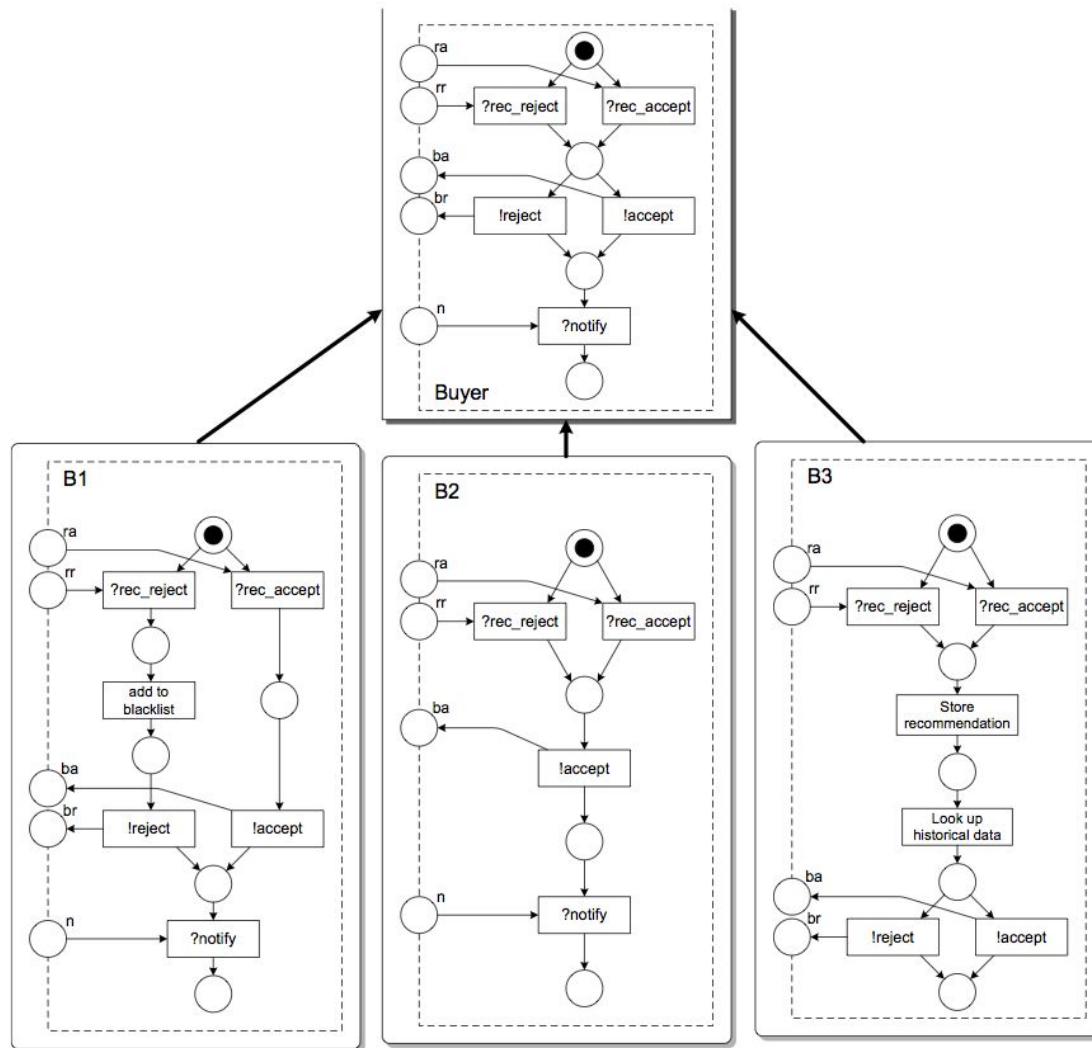
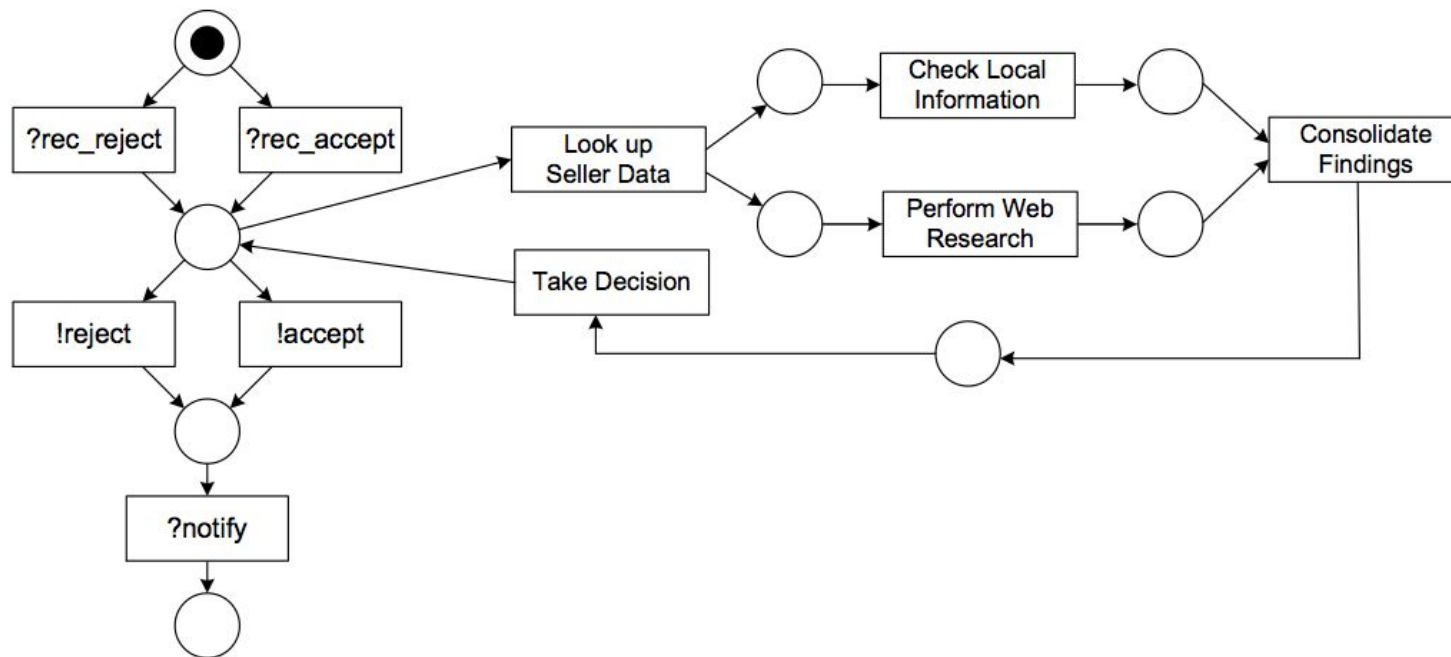


Fig. 5.17. Alternative implementations for buyer role



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Fig. 5.18. *Loop transformation operation of the public-to-private approach*

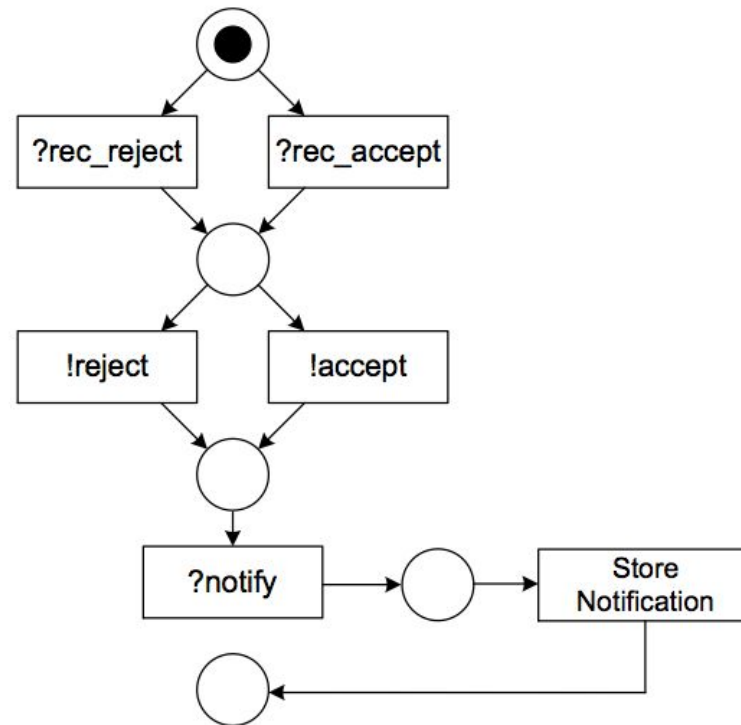
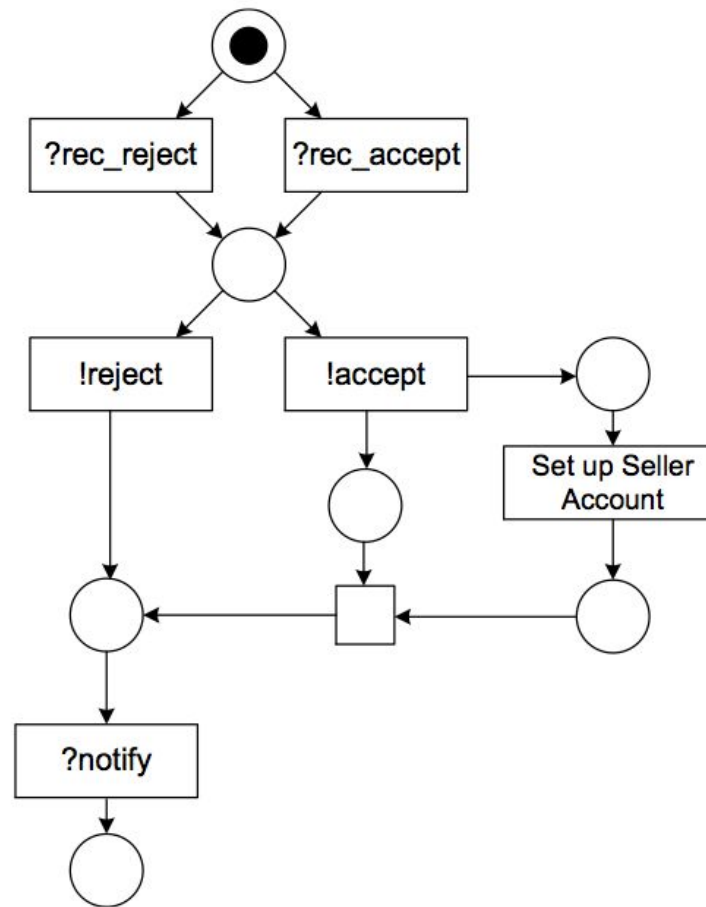
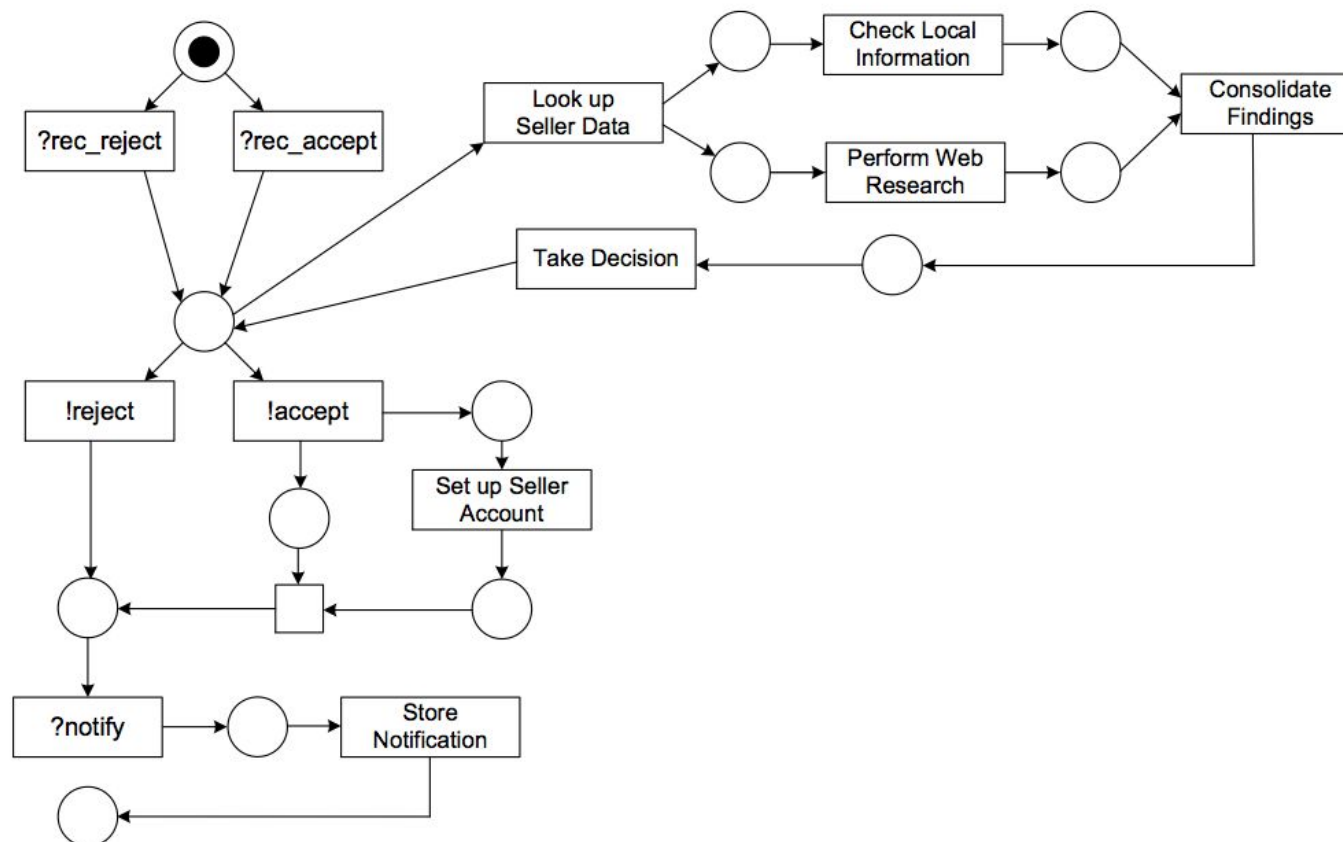


Fig. 5.19. *Detour* transformation operation of the public-to-private approach



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Fig. 5.20. *Concur* transformation operation of the public-to-private approach



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Fig. 5.21. Private process that—according to the public-to-private approach—is consistent with the public process of the buyer

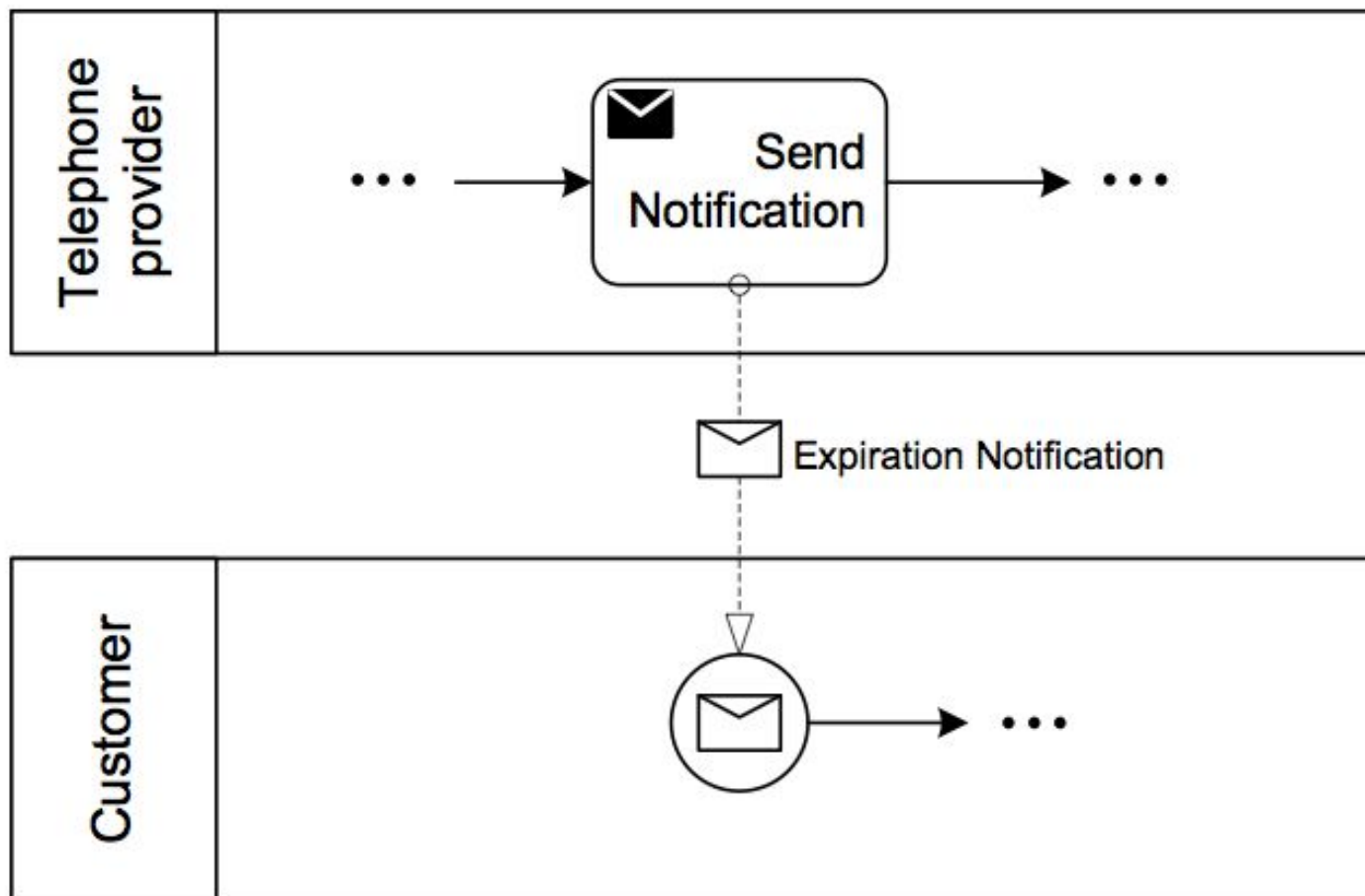


Fig. 5.22. Send pattern

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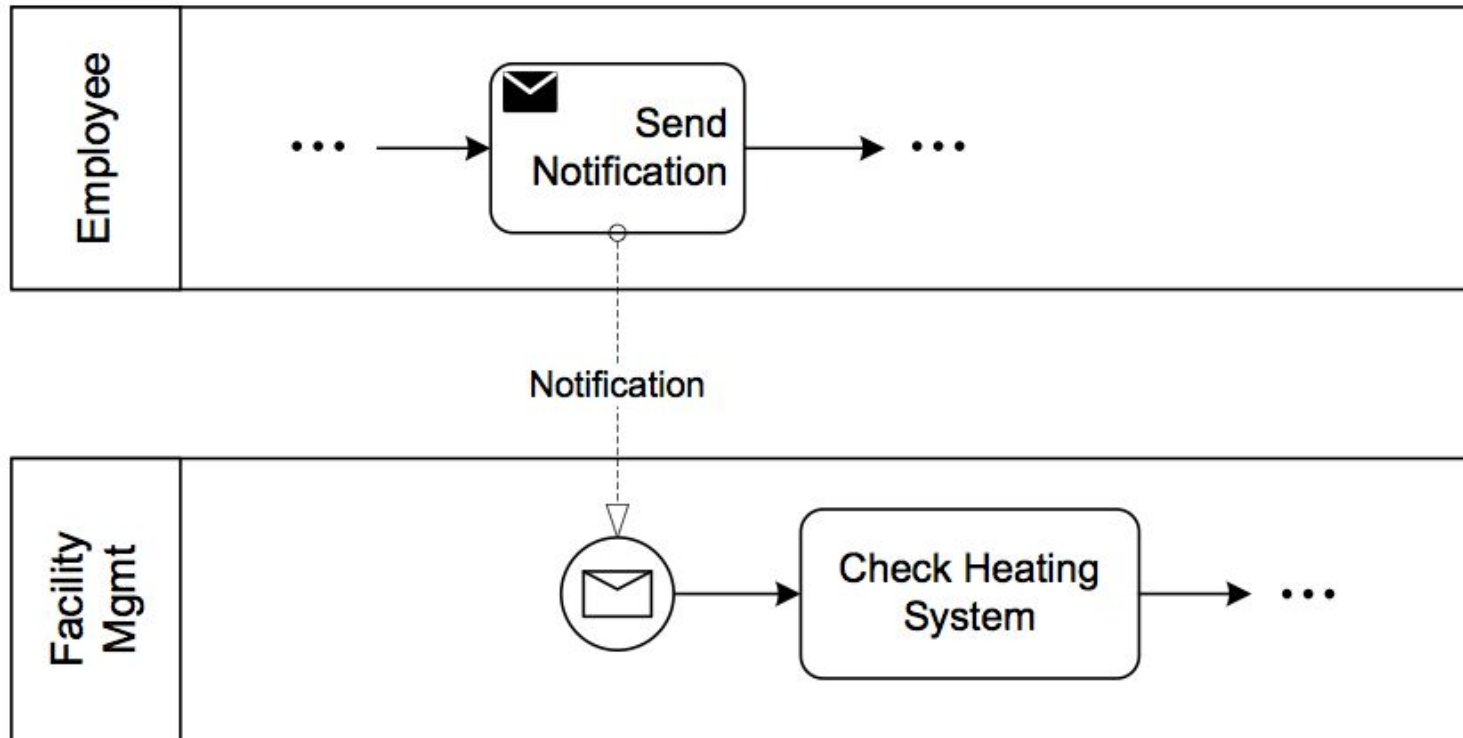


Fig. 5.23. Receive pattern

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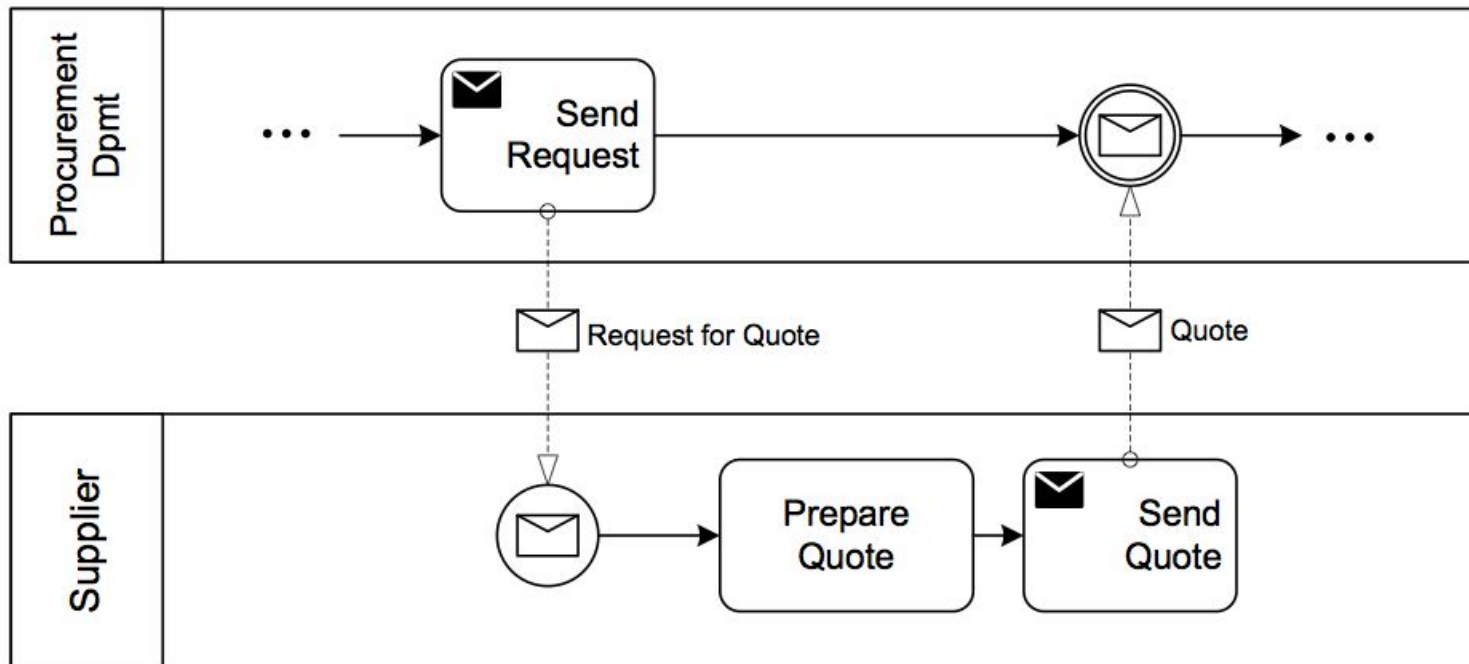
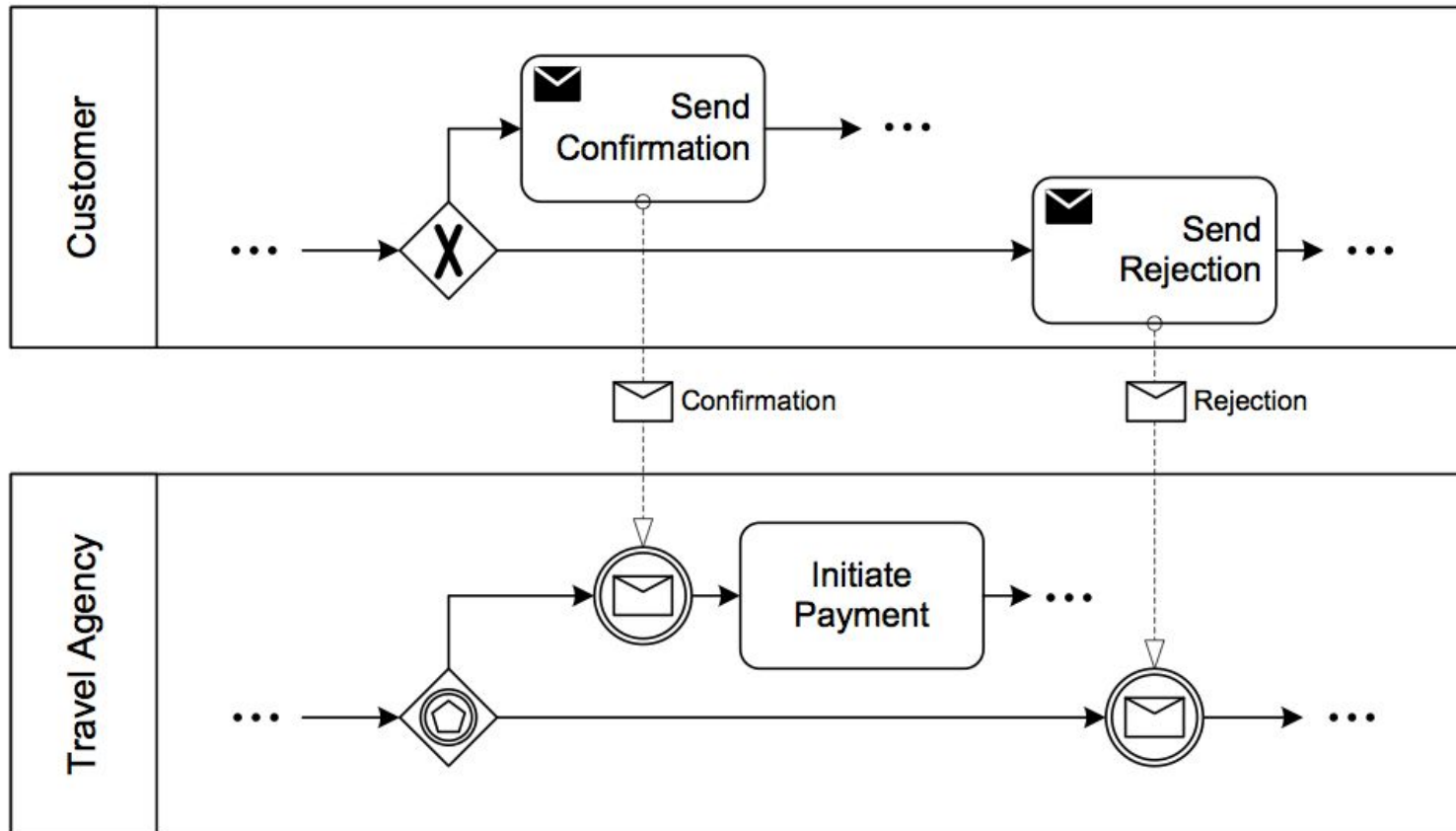


Fig. 5.24. Send/receive pattern



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Fig. 5.25. Racing incoming messages pattern

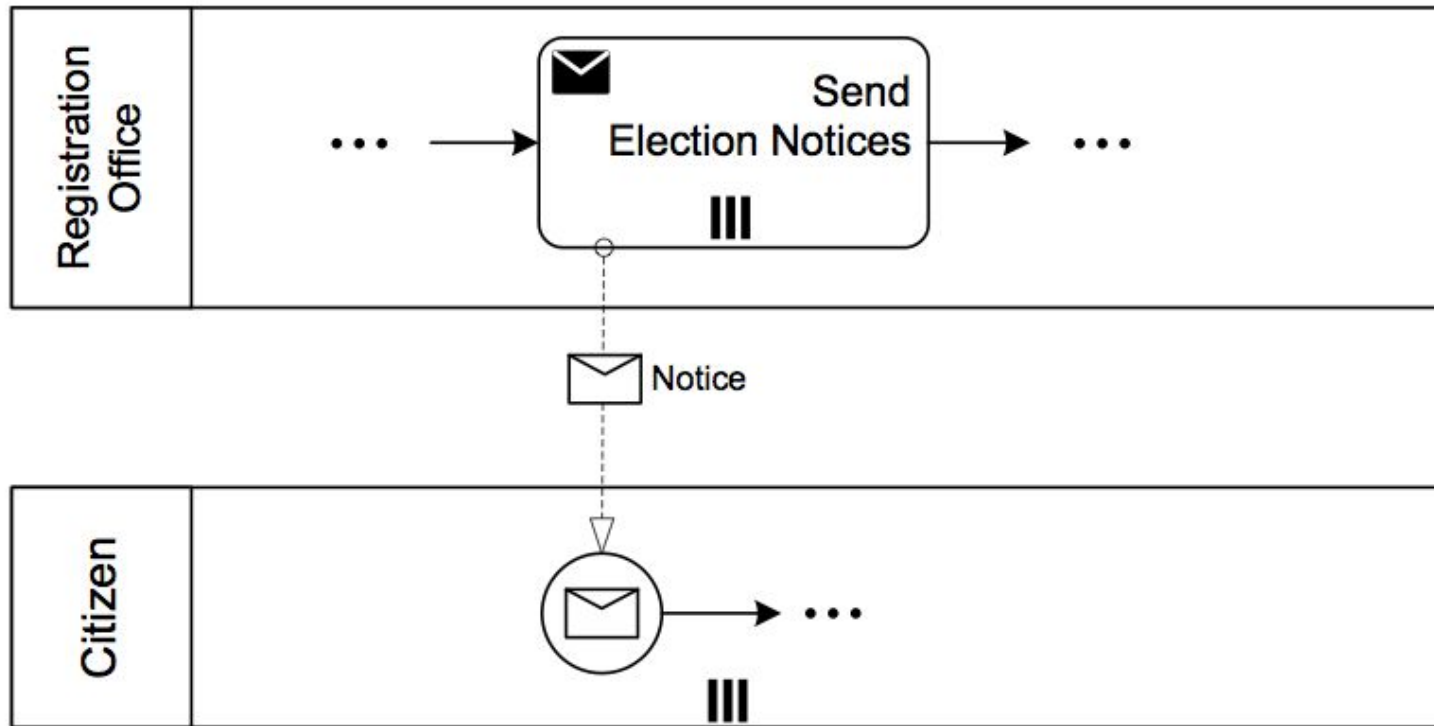
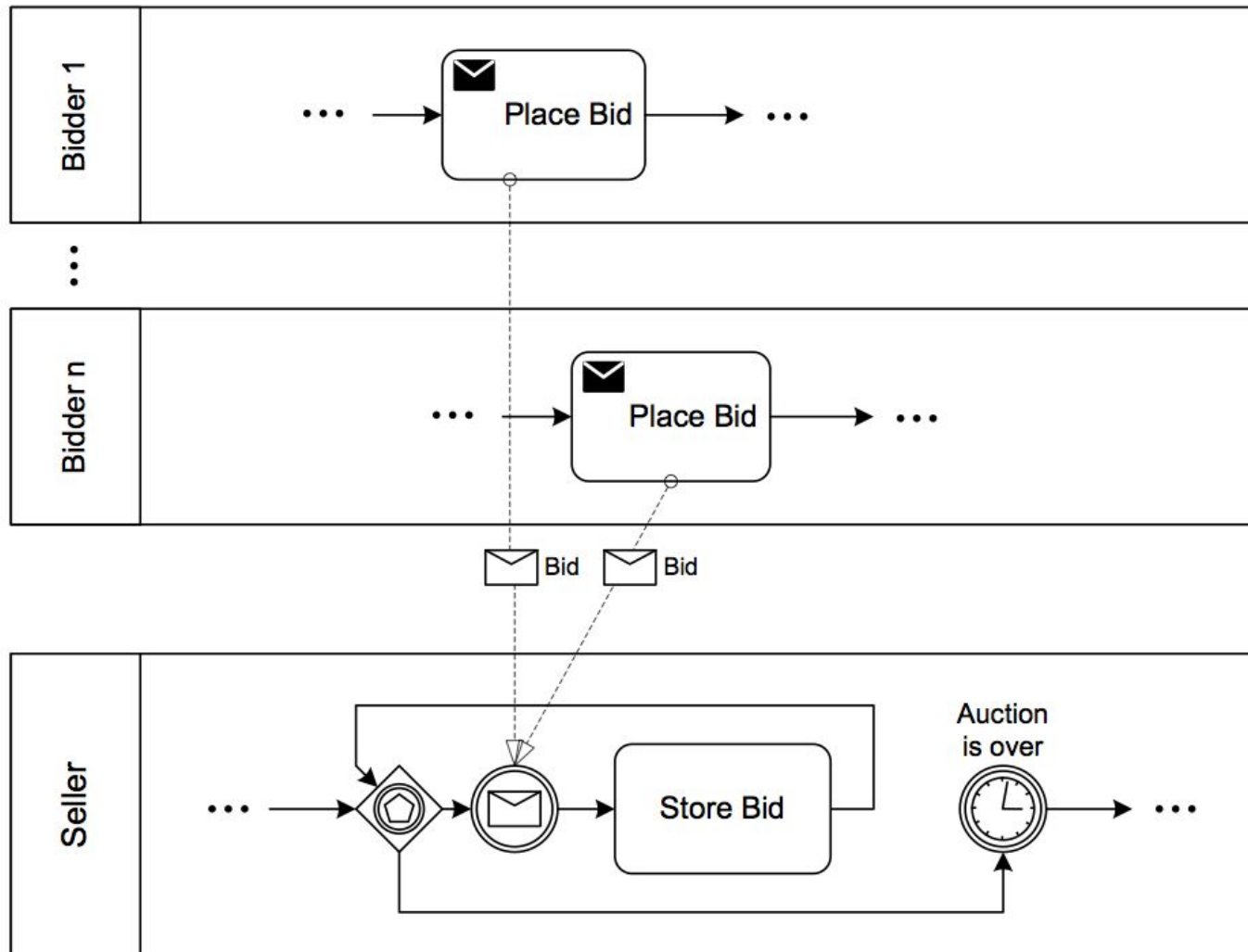


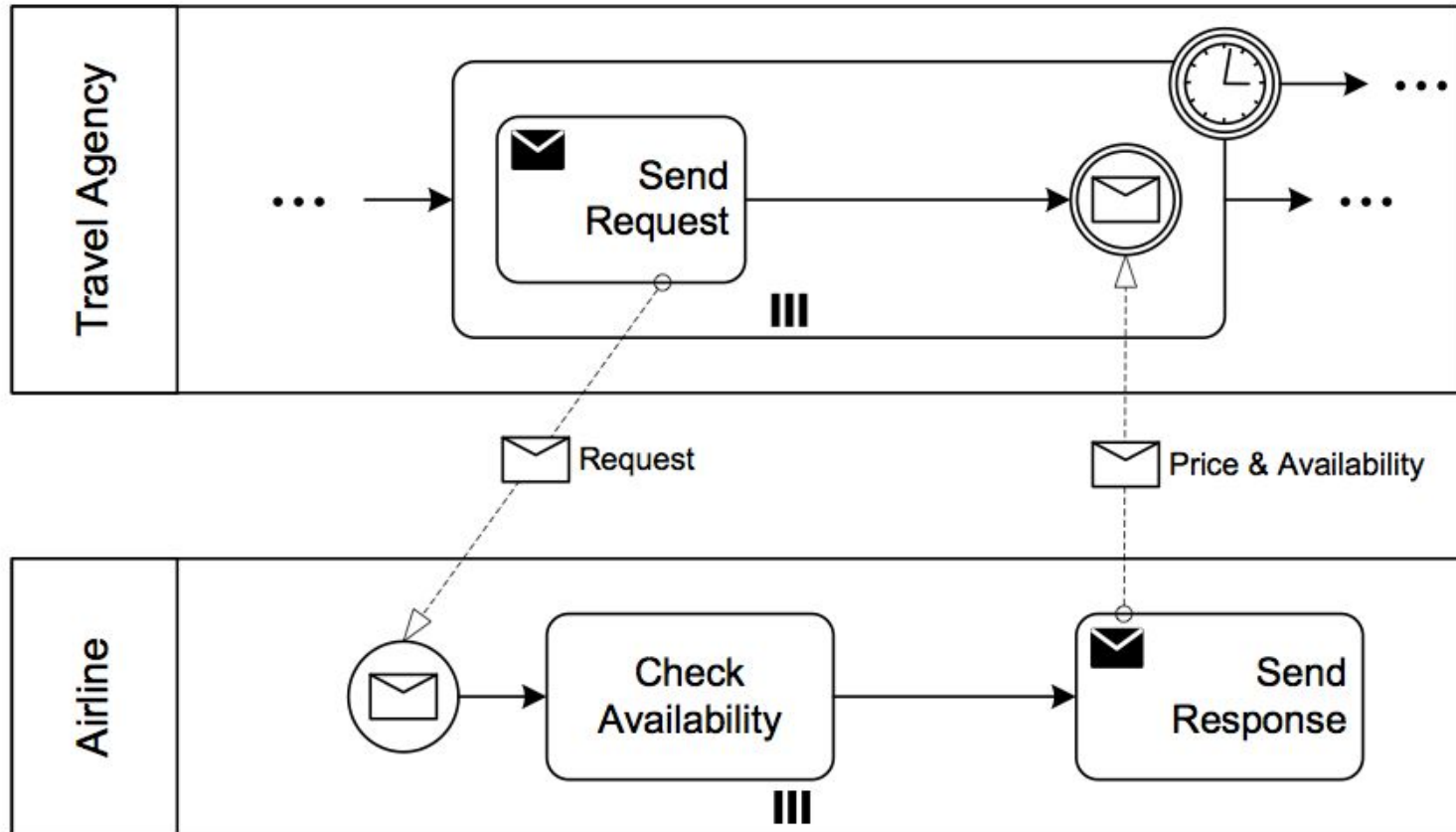
Fig. 5.26. One-to-many send pattern

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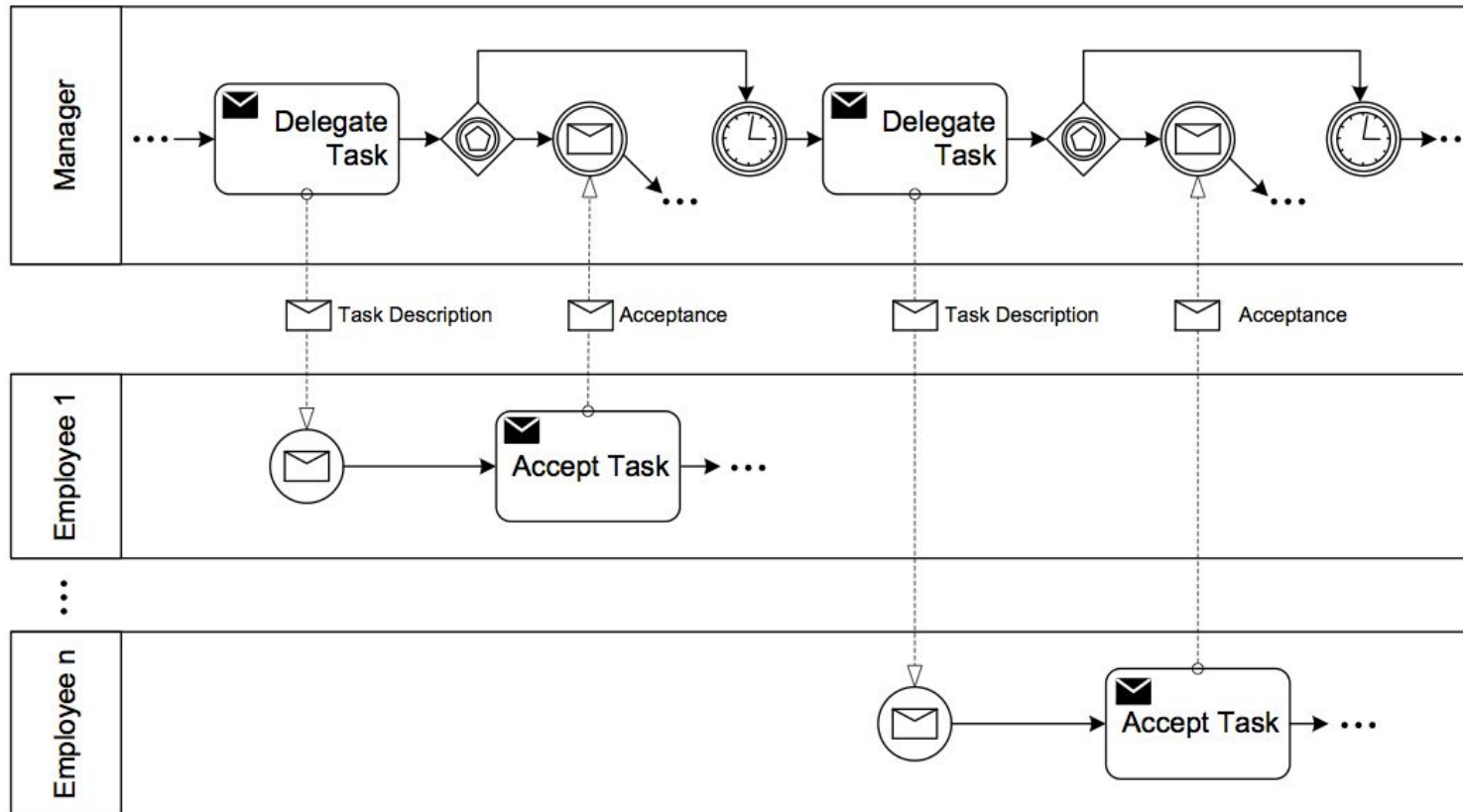
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Fig. 5.27. One-from-many receive pattern



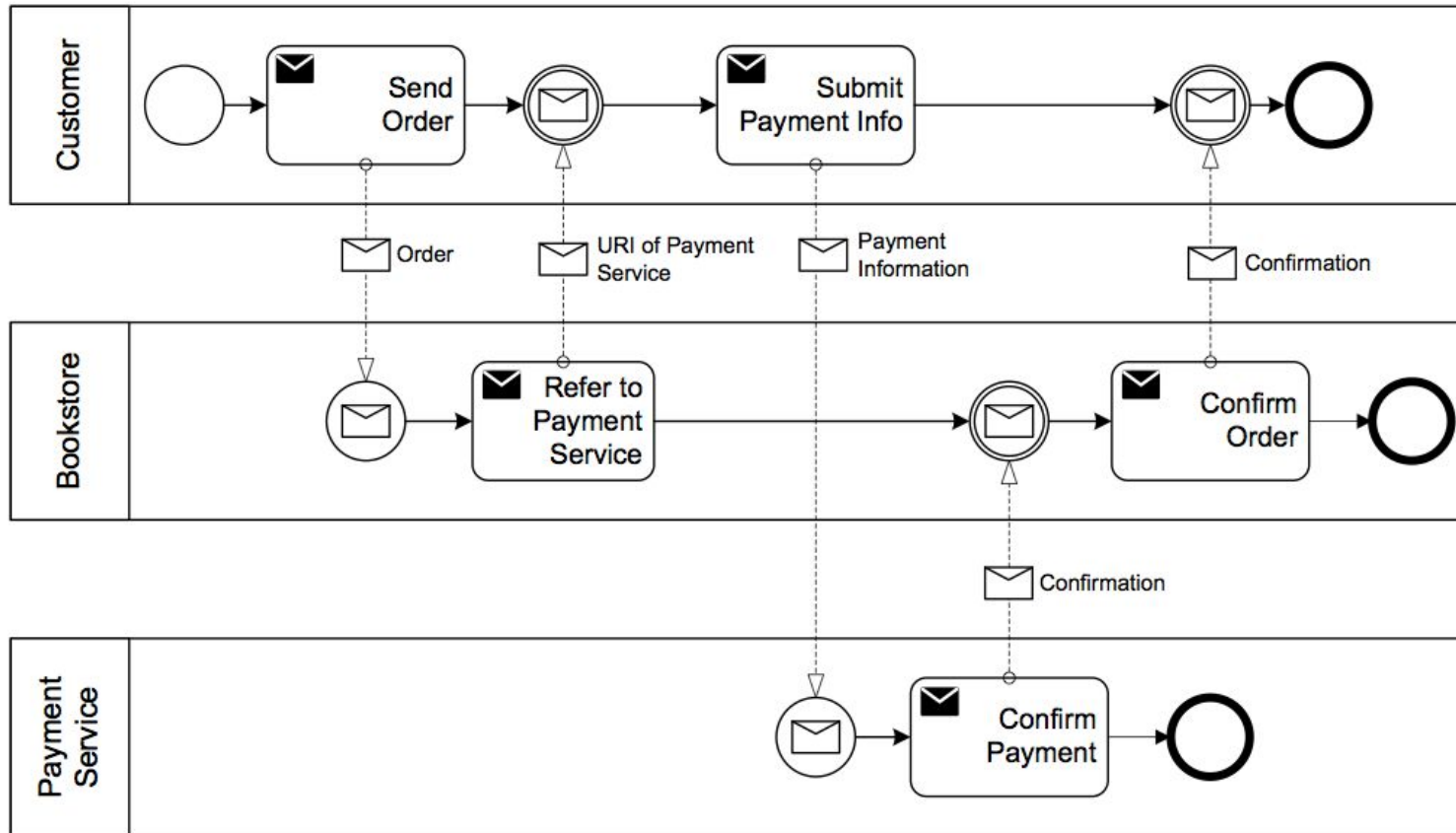
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Fig. 5.28. One-to-many send/receive pattern



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Fig. 5.29. Contingent requests pattern



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Fig. 5.30. Example involving request with referral pattern

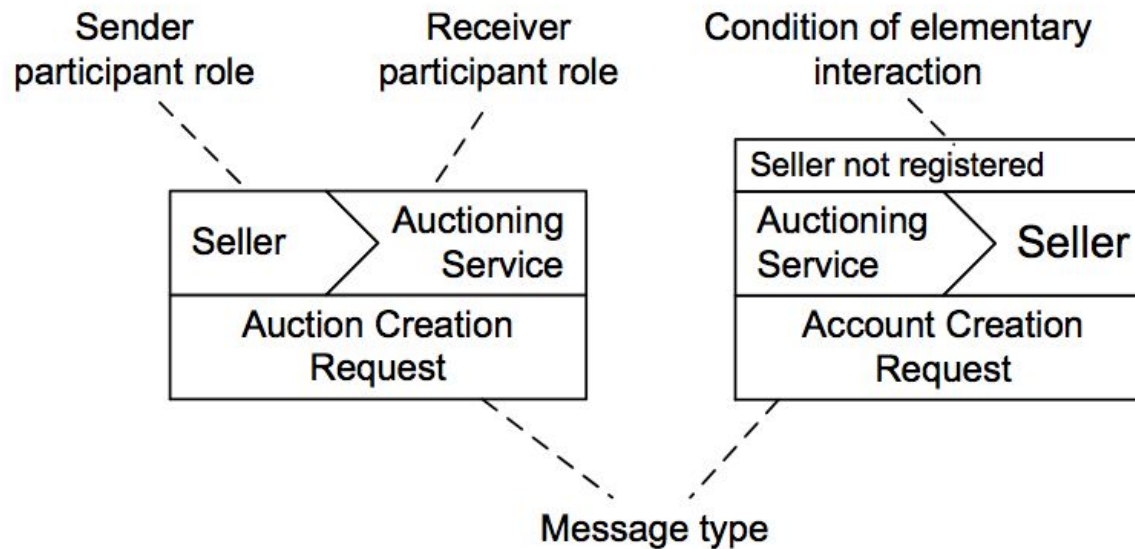
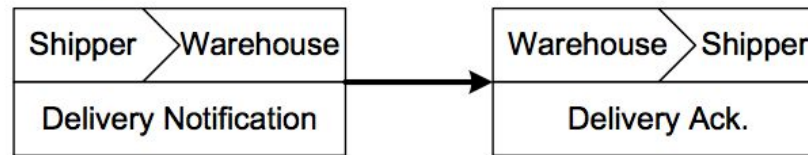
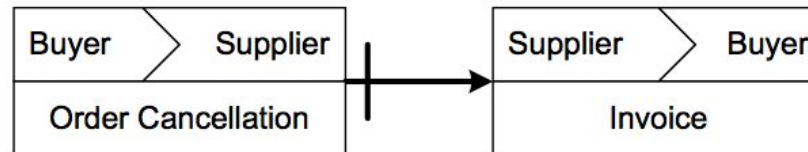


Fig. 5.31. Elementary interaction and conditional elementary interaction

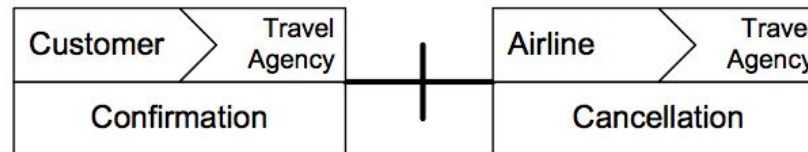
Precedes



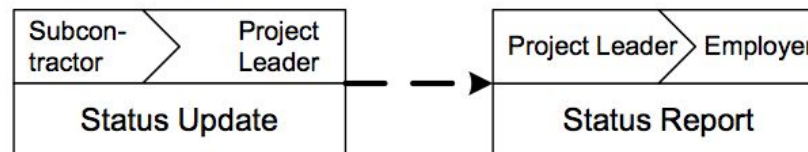
Inhibits



Vice-versa-Inhibits



WeakPrecedes



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Fig. 5.32. Basic control flow structures relating interactions

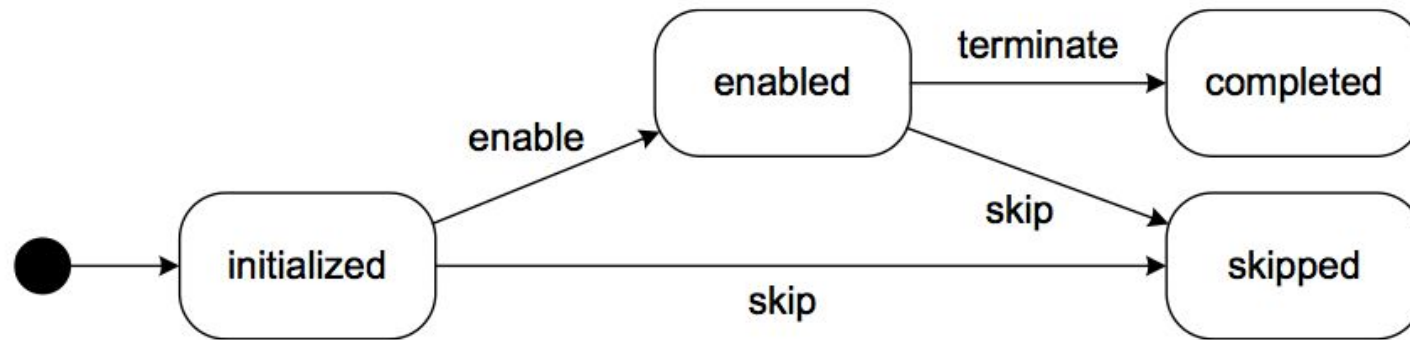


Fig. 5.33. Interaction instance lifecycle

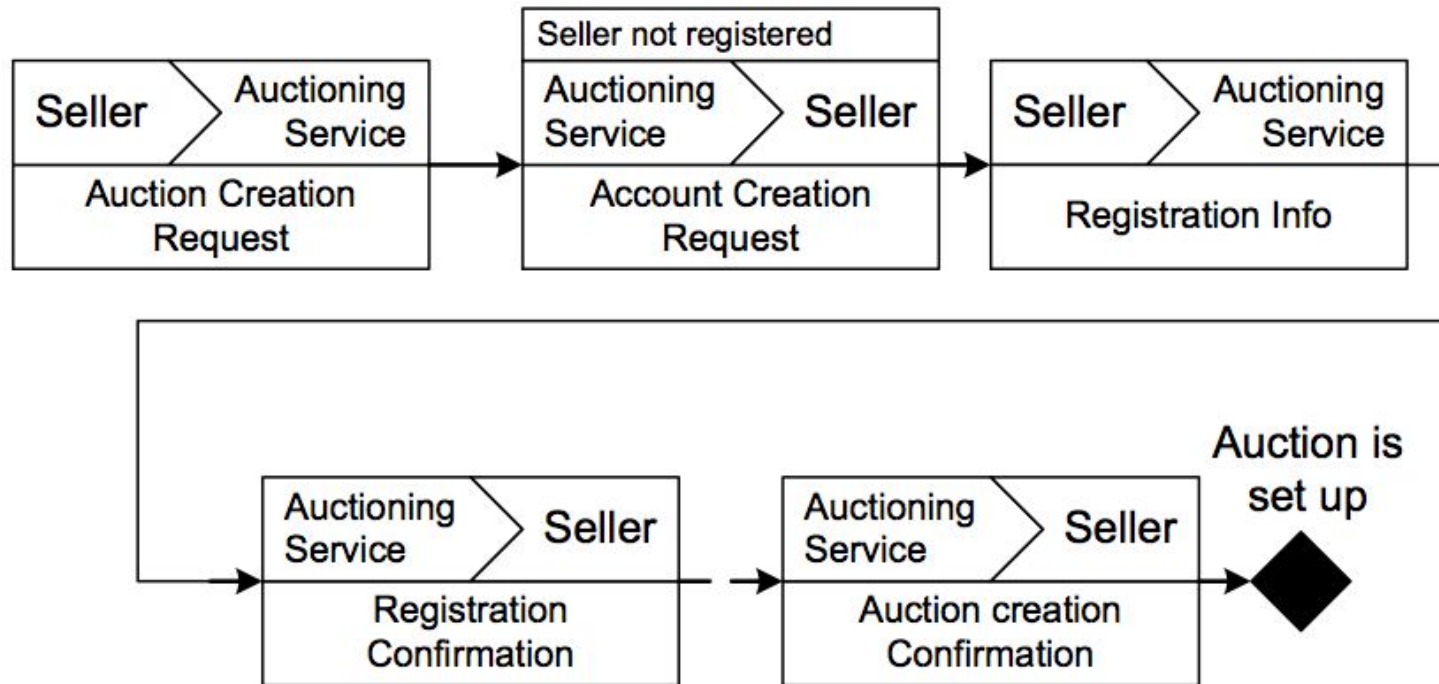
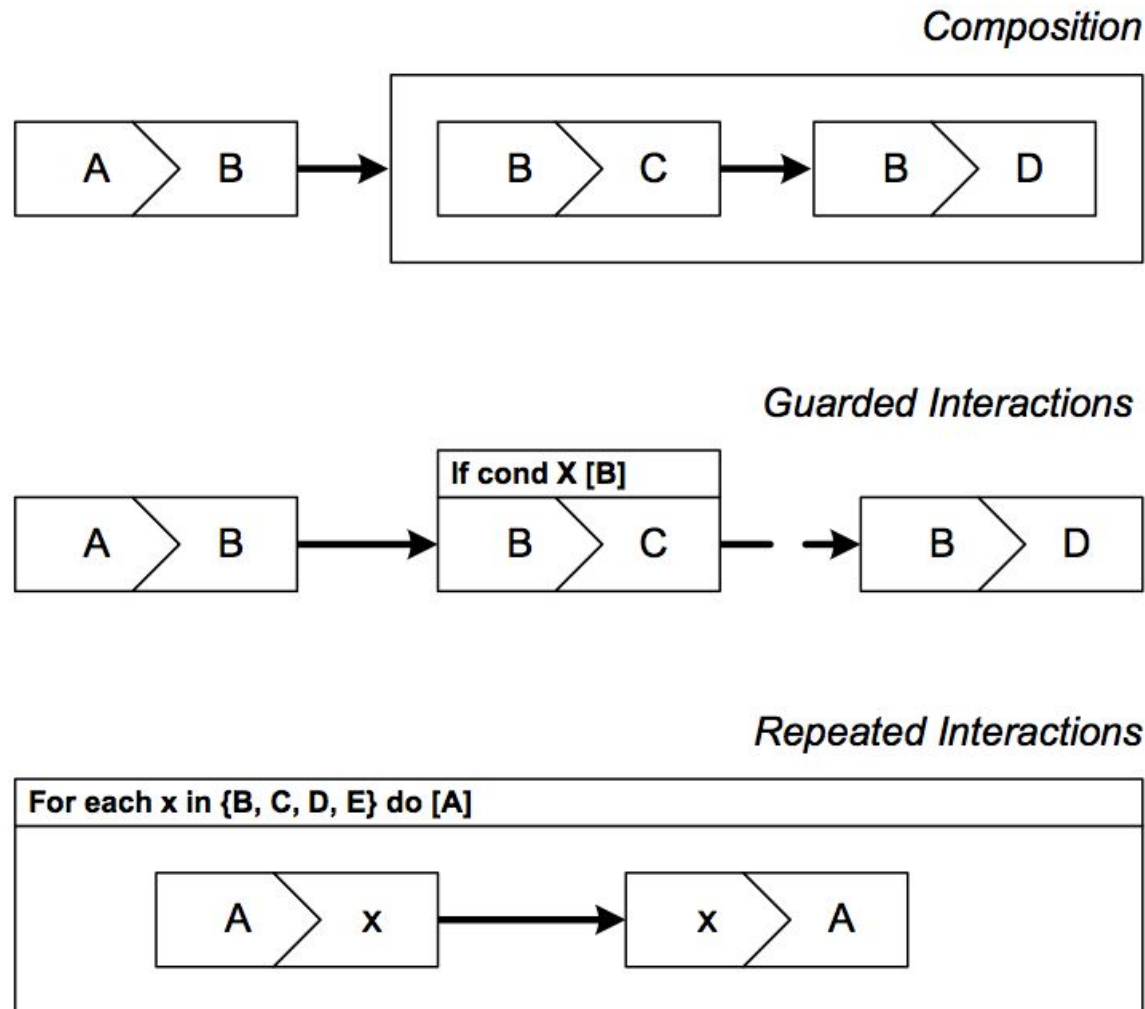


Fig. 5.34. Interaction modelling



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Fig. 5.35. Advanced control flow constructs

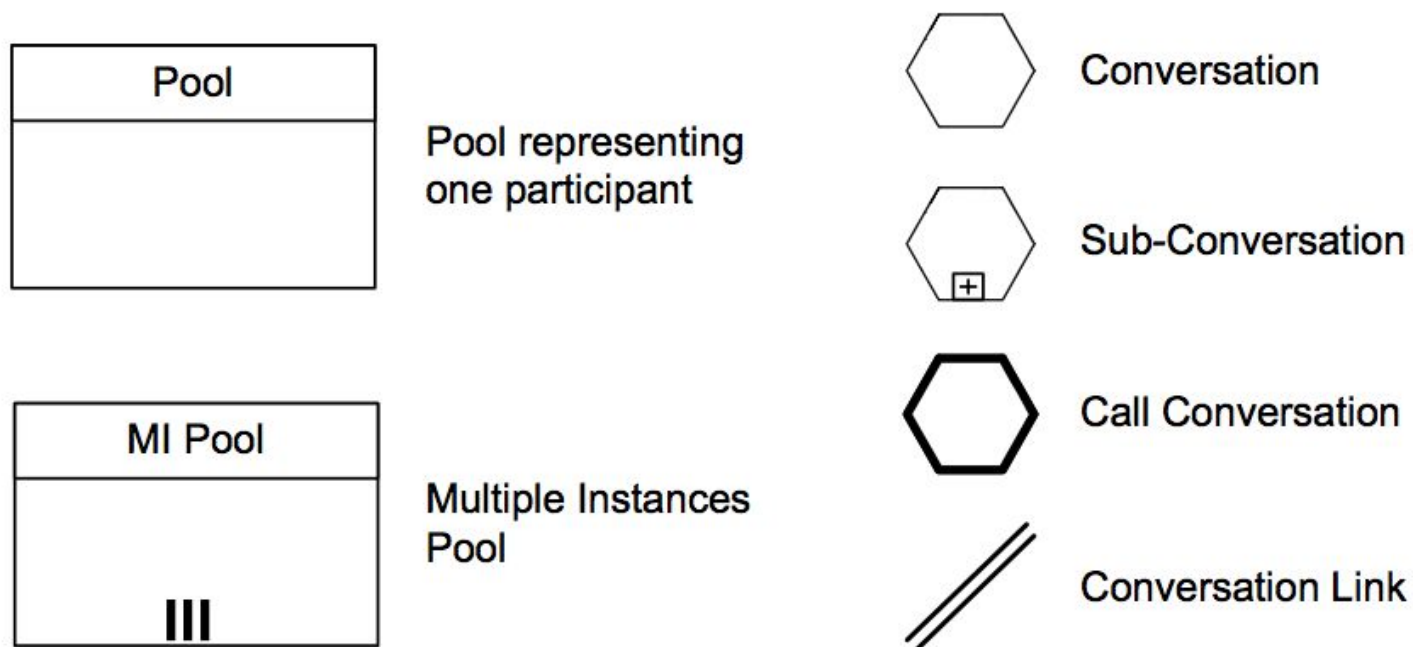


Fig. 5.36. Elements used in BPMN conversation diagrams

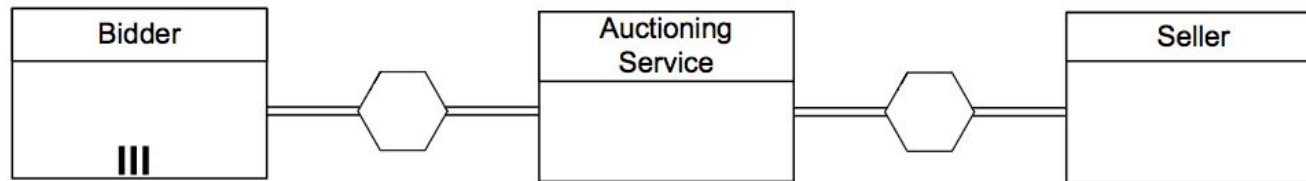


Fig. 5.37. Conversation diagram involving multiple bidders, an auctioning service, and a seller

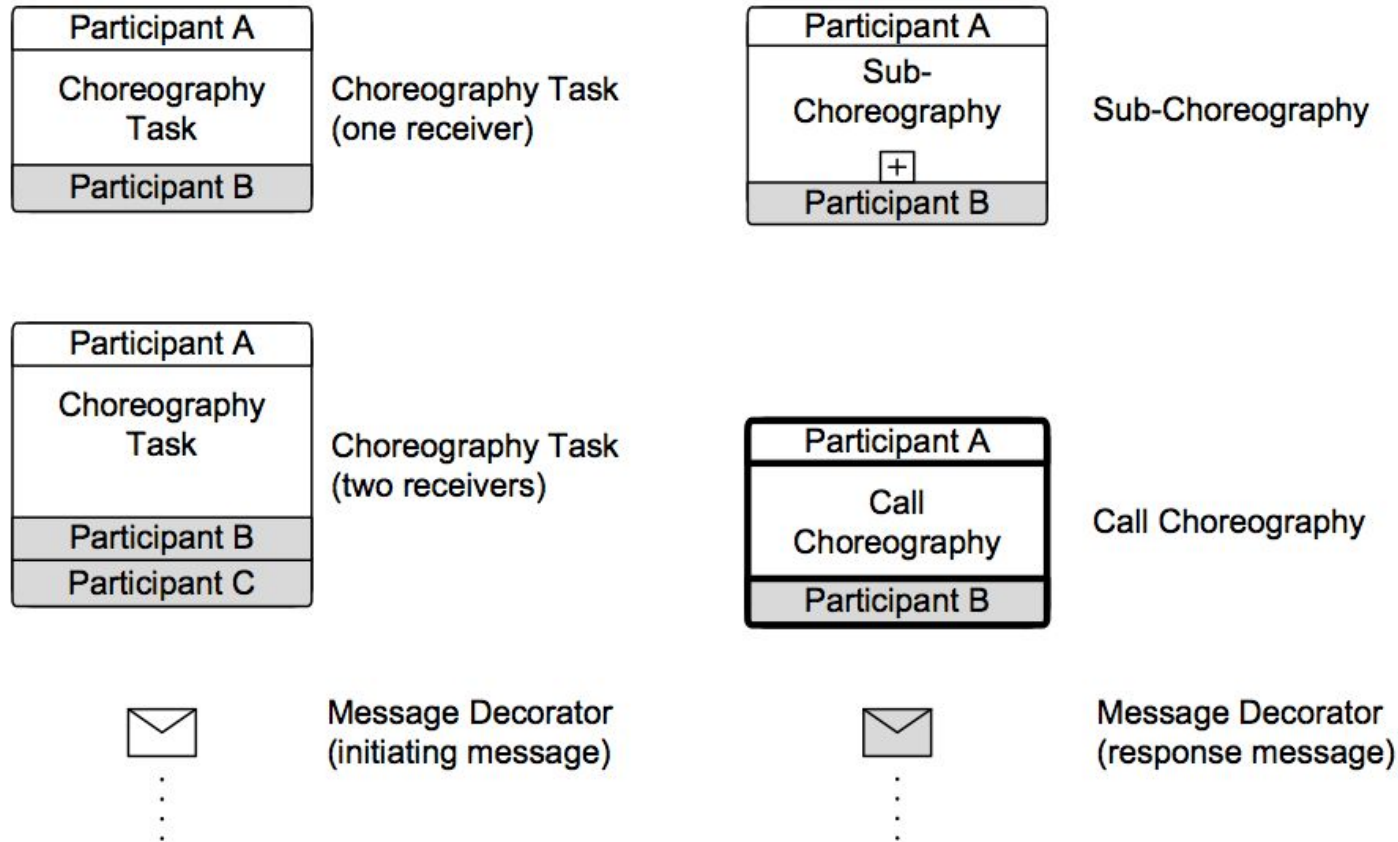
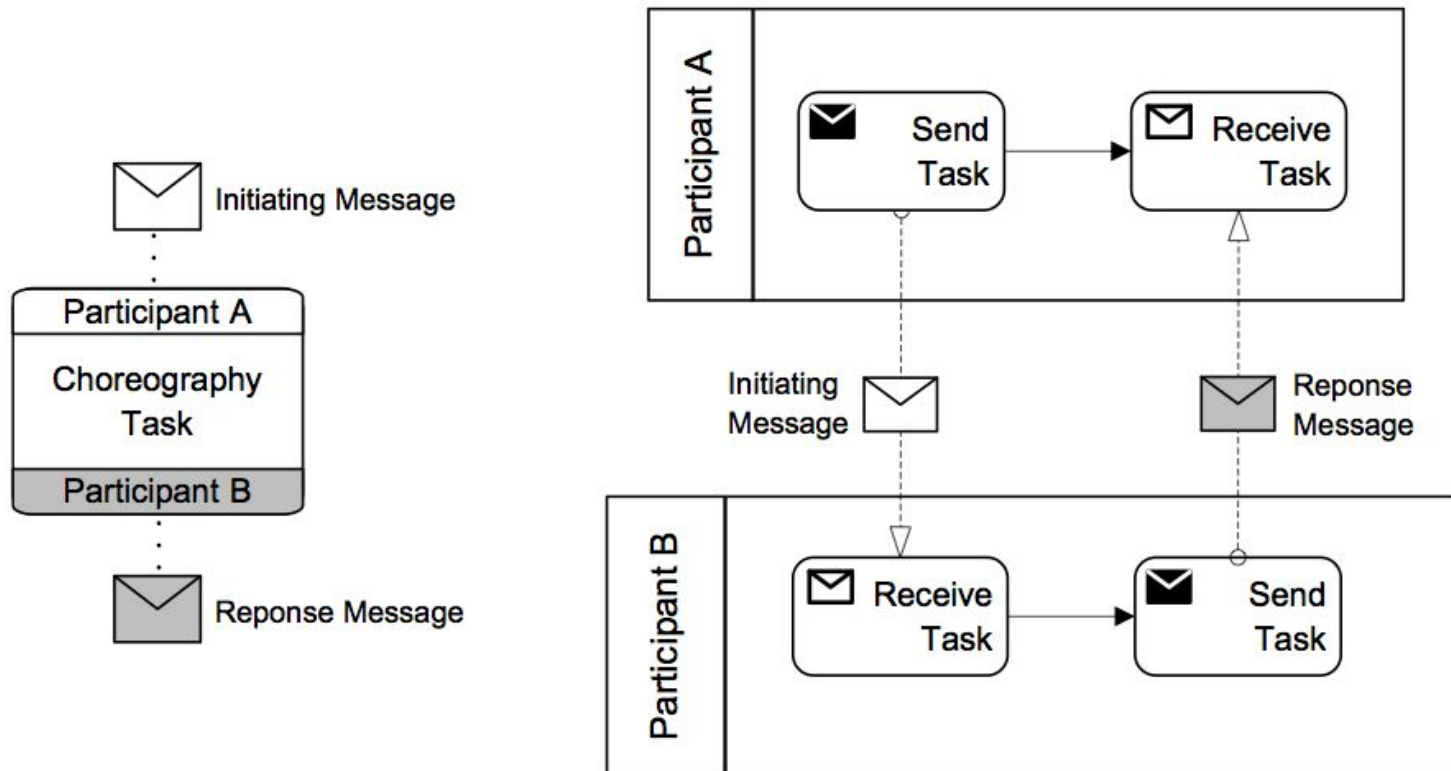


Fig. 5.38. Notational elements used in BPMN Choreography diagrams



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Fig. 5.39. Choreography task and corresponding process diagram

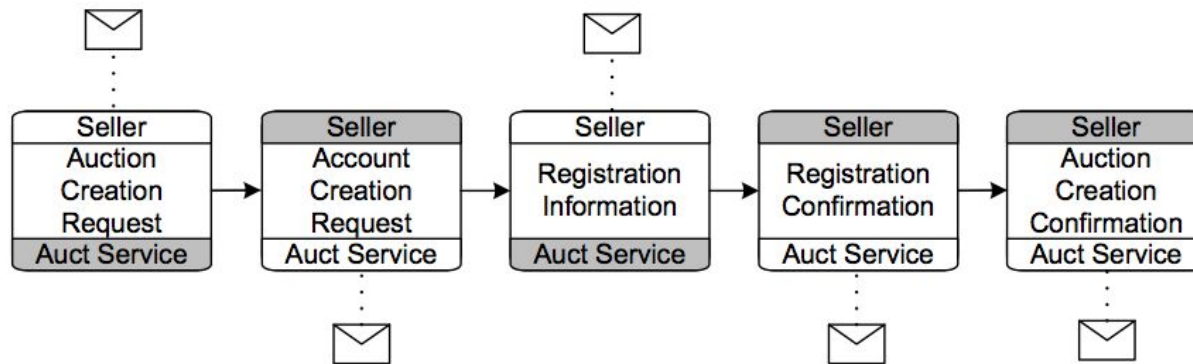
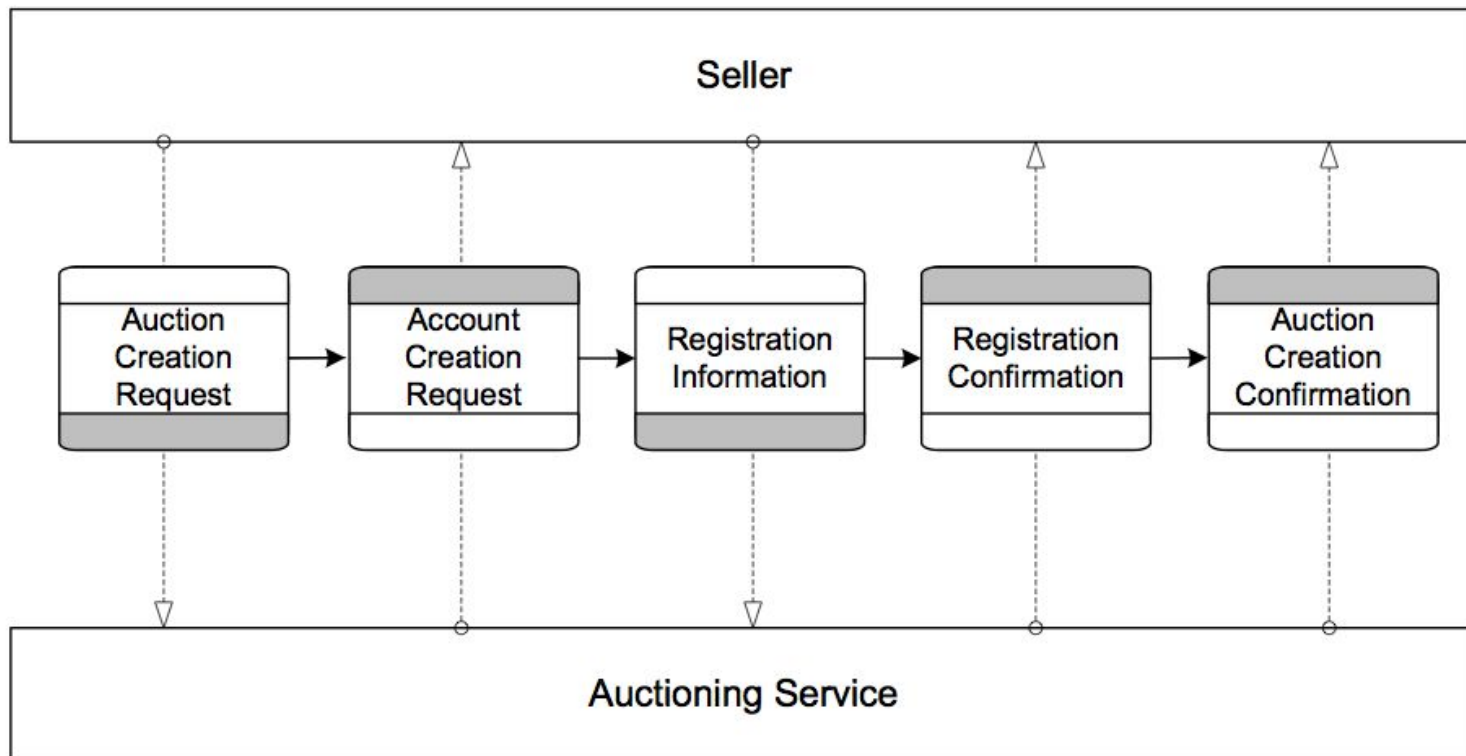


Fig. 5.40. Collaboration scenario, described by BPMN Choreography Diagrams



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Fig. 5.41. Choreography diagram with pools

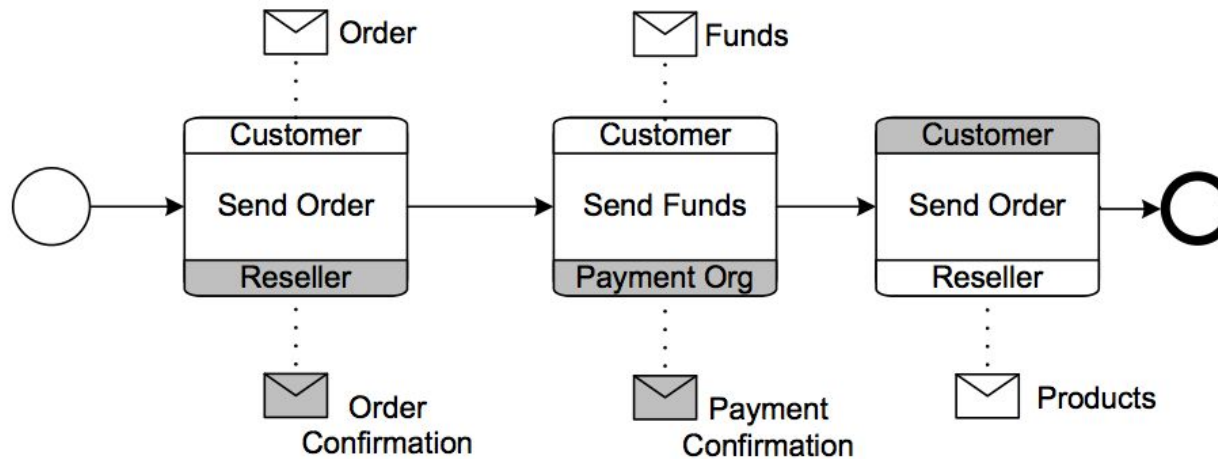


Fig. 5.42. Choreography diagram that is not enforceable, since the reseller cannot know if the customer has already send the funds

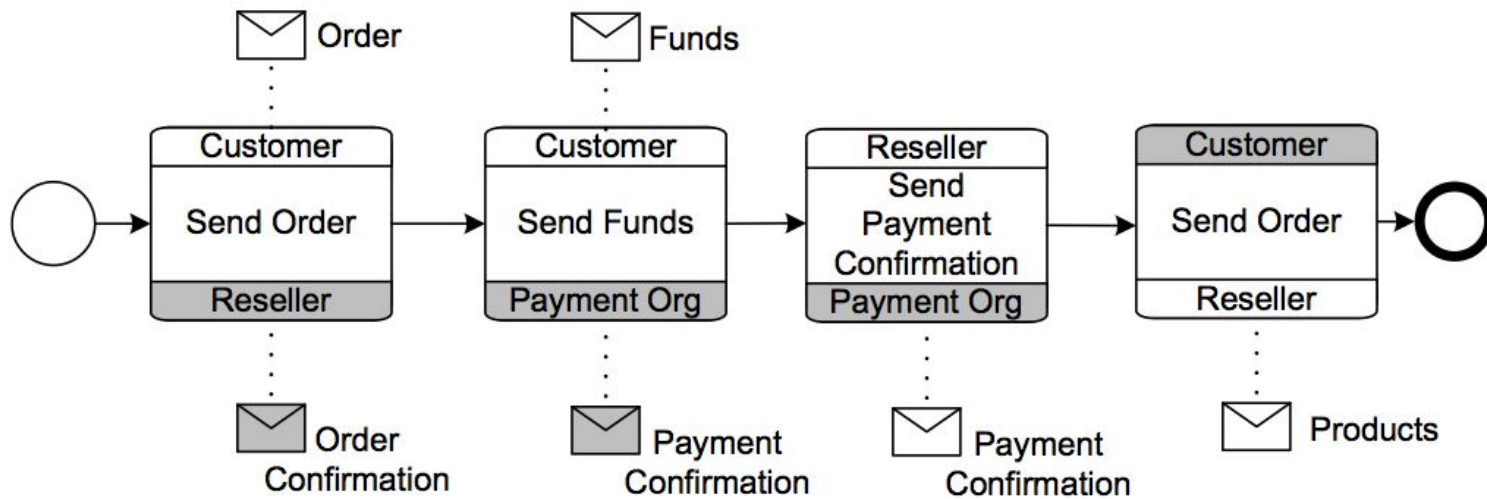


Fig. 5.43. Choreography diagram that is enforceable

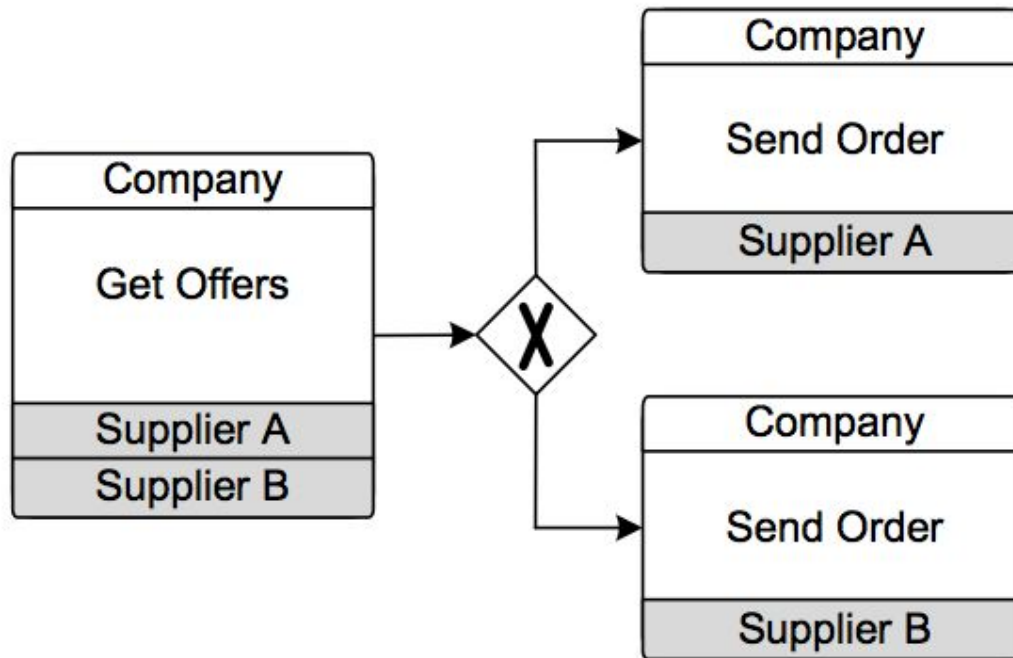


Fig. 5.44. Choreography diagram with exclusive gateway

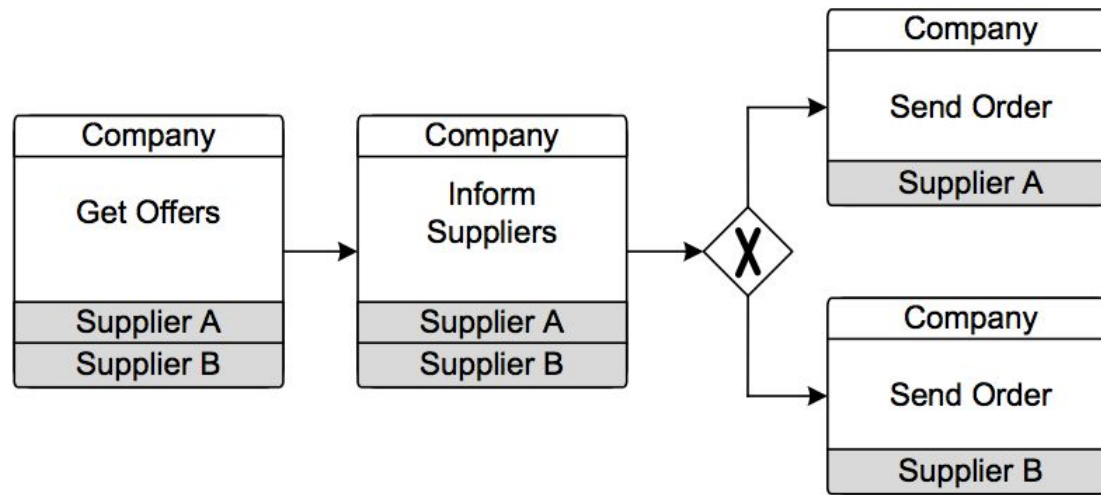
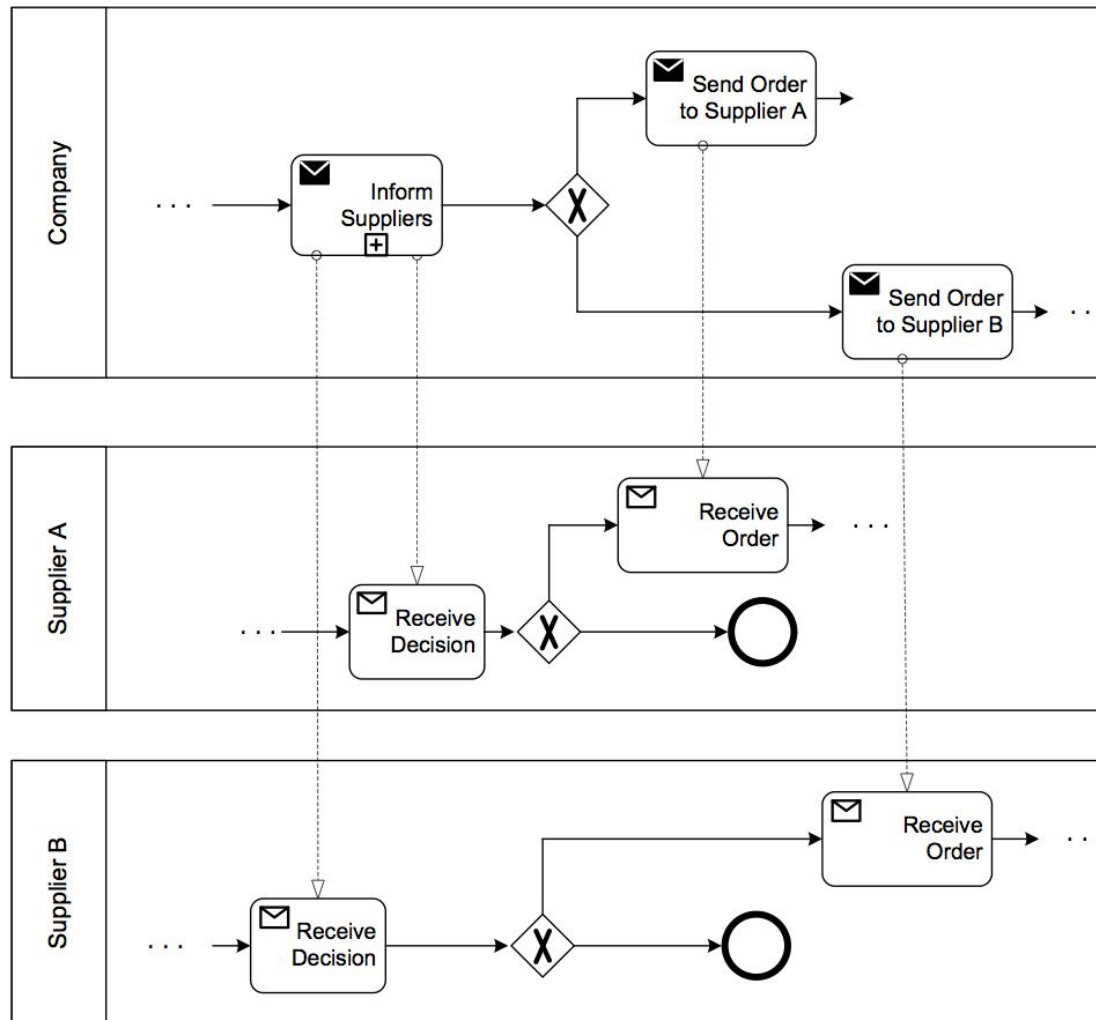


Fig. 5.45. Additional choreography task *Inform Suppliers* makes sure that receivers are informed about the decision taken by the exclusive gateway



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Fig. 5.46. Collaboration diagram with process orchestrations, implementing the choreography defined in Figure 5.45

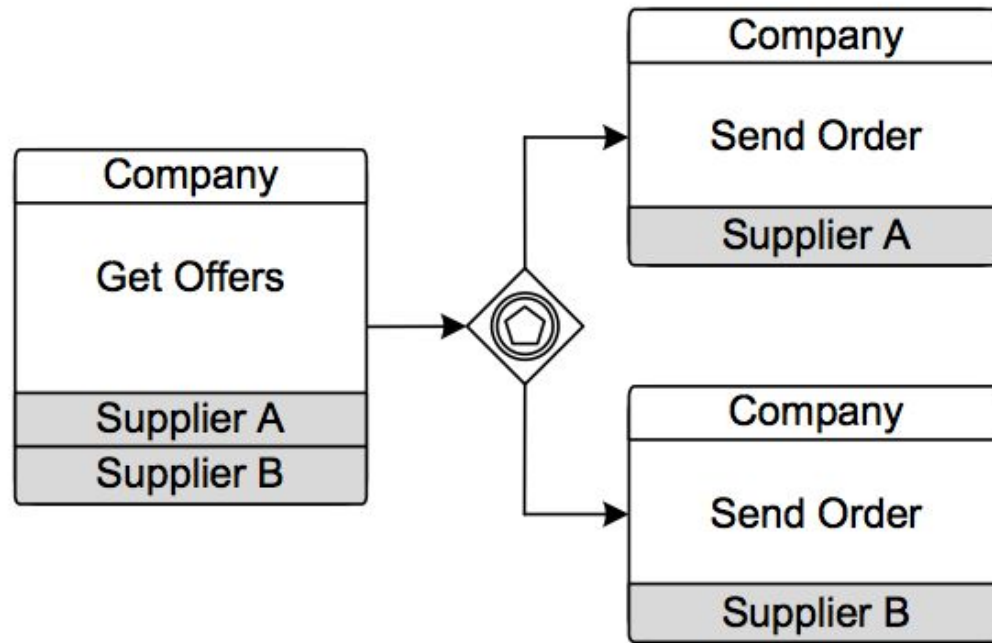
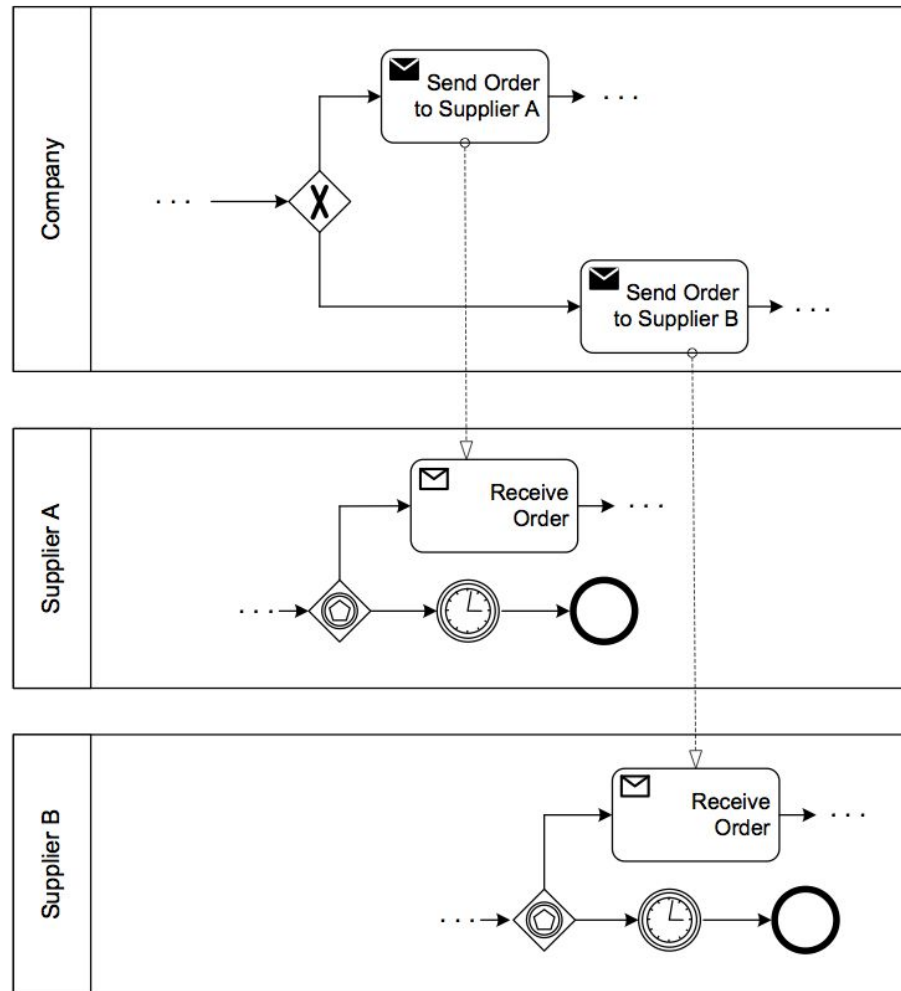


Fig. 5.47. Choreography diagram with event-based gateway



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Fig. 5.48. Collaboration diagram with process orchestrations, implementing the choreography defined in Figure 5.47

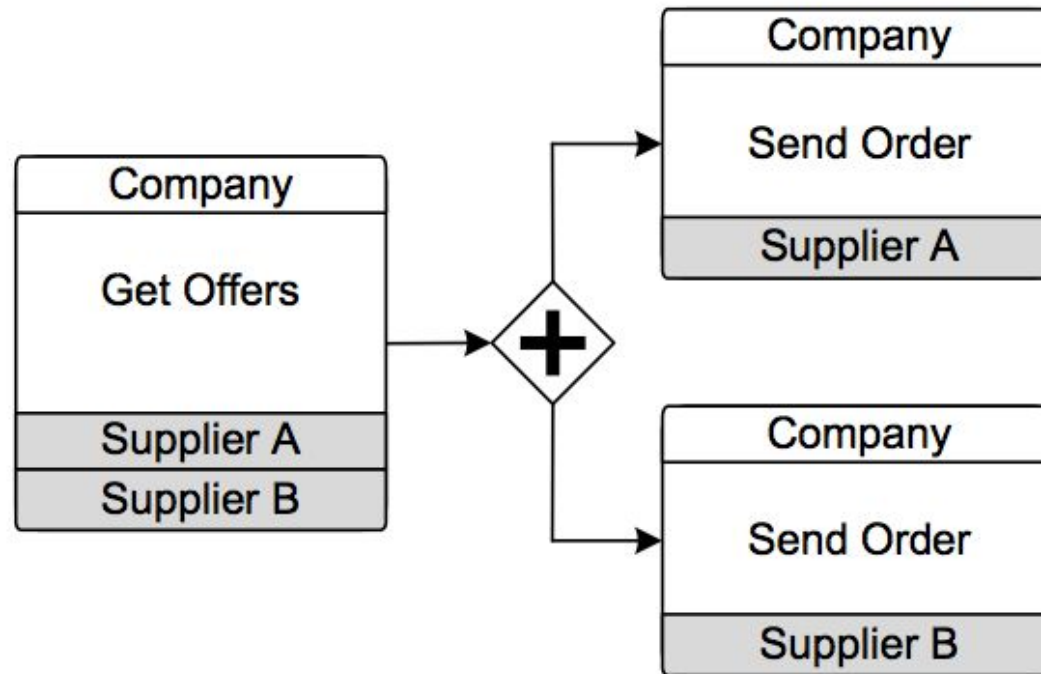
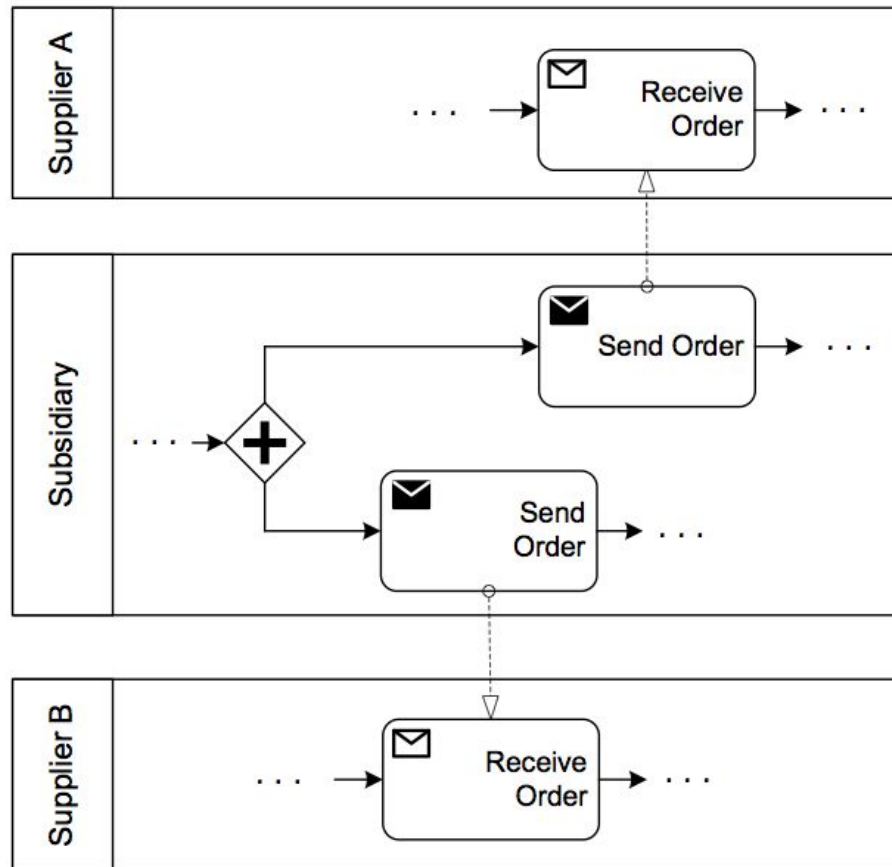


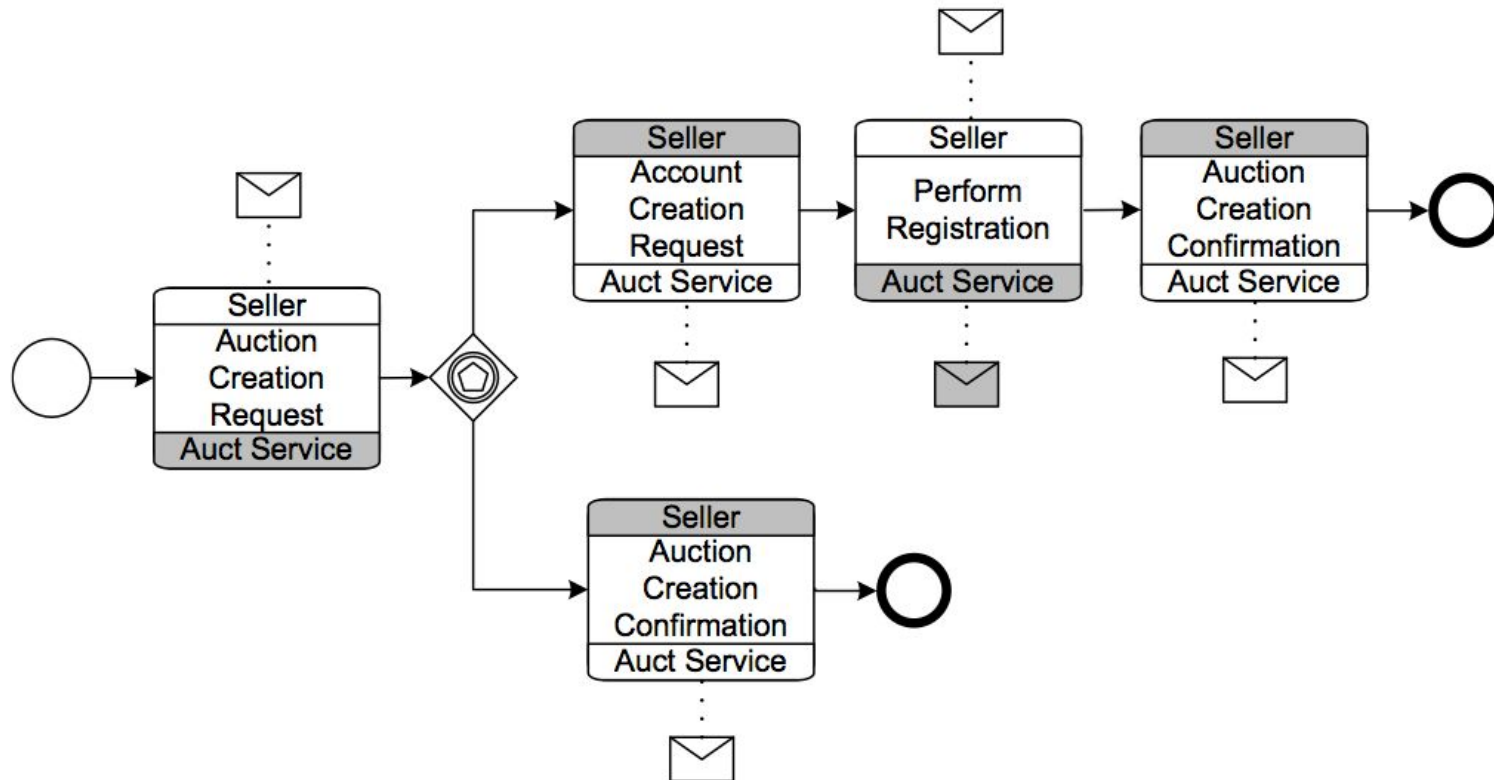
Fig. 5.49. Choreography diagram using parallel gateway

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Fig. 5.50. Process diagram realizing parallel gateway of process choreography



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Fig. 5.51. Choreography diagram representing auctioning scenario