Orchestration and Choreography for Business Change

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Overview

- What are orchestration and choreography?
- Effect of business change on O/C.
- Business process models without O/C.
- Segmented process specification.
- Protocol processes.
O/C = Organization Boundary?

- Orchestration inside organization boundary, choreography across it.
O/C ≠ Organization Boundary

- Distributed coordination inside organization.
- Is it orchestration or choreography?
O/C = Coordination Pattern

- Centralized coordination inside organization boundary, distributed coordination across it.
Organization Change

- Change the boundary, change the model.
- Do the steps happen the same way as before?
A high-level business view does not need to commit to orchestration or choreography.

It might only specify timing of the steps, and what things / people are involved:
- What steps happen after which others (sequence).
- What things are used in common by which steps (output / input).
- Who performs each step.
- What happens after what:
  - The first step is ReceiveOrder.
  - SendInvoice starts after ReceiveOrder is finished.
  - Fill Order starts after ReceiveOrder is finished.
  - Process Payment starts after SendInvoice is finished ...

- No commitment to how this is ensured (coordination).
Objects in Common

- What objects are used in common:
  - The input document to SendInvoice is the same as the output document of ReceiveOrder.
  - The input document to FillOrder is the same as the output document of ReceiveOrder ...

- No commitment to how this is ensured (coordination)
CustomerService performs ReceiveOrder.
Fulfillment performs FillOrder ...
Still no coordination pattern committed.
Organization change

- CustomerService performs ReceiveOrder, Process Payment, ...
- Fulfillment performs FillOrder, DeliverOrder.
Coordination pattern must conform to constraints of the previous slides.
Process Refinement

- Refinement = more commitments.

More commitment (not waterfall)

Object I/O

Performers

Coordination

Sequence
Refinement Rollback

- Alternative commitments (keep for what-if).
Process instances conform to constraints “inherited” from specifications.
Protocol Processes

- Use sequencing and object I/O constraints on messages.
  - After first message arrives at Org 2, second two are sent in parallel to Org 1.
  - After those both arrive at Org 1, last message is sent to Org2.
- For defining standard or contractual interactions (e.g., RosettaNet).
Adapting to Protocols

- Specialization rollback for adapting to new and changing protocols.

Rolling back coordination commitments

New or changed protocol
Summary

- Orchestration and choreography are coordination / messaging patterns.
- Committing to them makes process specifications brittle under org change.
- Segmented process specialization gives access to other commitments when organizations change.
- Executing processes should conform to inherited constraints.
- Protocol processes can specify standard industry interactions.