University of Applied Sciences Northwestern Switzerland
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Interaction Models in BPMN 2.0
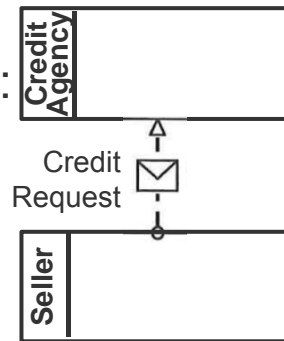
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These slides are based on:

■ White, S.A. and Bock, C. (2011): New Capabilities for Process Interaction in BPMN 2.0. In: Fischer, L. (ed.): BPMN 2.0 Handbook, Future Strategies Inc.

Interaction Models

- Interaction models are new in BPMN 2.0

- They allow to model B2B cooperations

- Business services are characterized by interactions between businesses and their customers and partners

  - They are usually agreed or assumed ahead of time, and do not detail the internal activities of the participants.

  - Agreements determine what information, goods, or personnel are needed by whom and at what time, how complaints and unusual situations are handled, and so on.

  - The interactions might be very short from start to end, or take place over a long period.

Interaction Diagrams

Collaboration
(between pools):

Choreography:

Two diagrams for interactions:

♦ **Collaboration** (already BPMN 1.x)
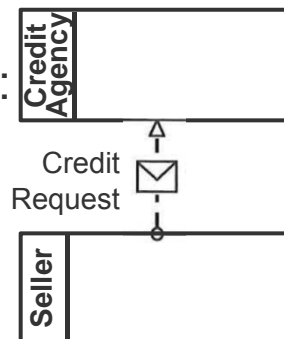
♦ Choreography

Common elements of interaction diagrams:

■ Participants are the interacting agents

♦ Businesses, departments, people, IT

■ Messages are sent between Participants

♦ These can be informational or physical, including physical things that do not carry information, such as cars or furniture.

■ Messages Flows occur at certain points during the interaction, between Participants.

♦ The same Message can be carried by more than one Message Flow.

Interaction Diagrams

Choreography:

Collaboration
(between pools):

- Choreography diagrams
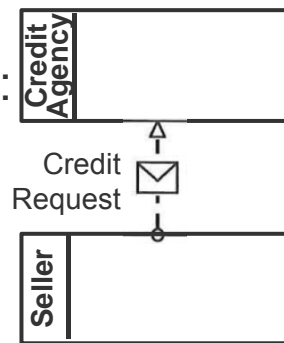 - ◆ show participants as bands inside a rounded rectangle, called a Choreography Activity.
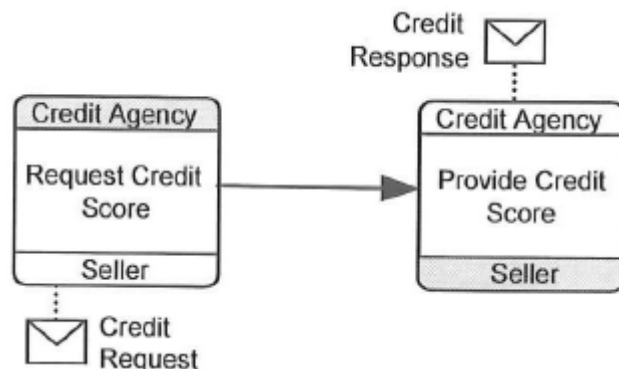
- Collaboration diagrams
  - ◆ show participants more prominently than Choreography.
  - ◆ They are useful when relationships between Participants are the primary concern.

Messages in Interaction Diagrams
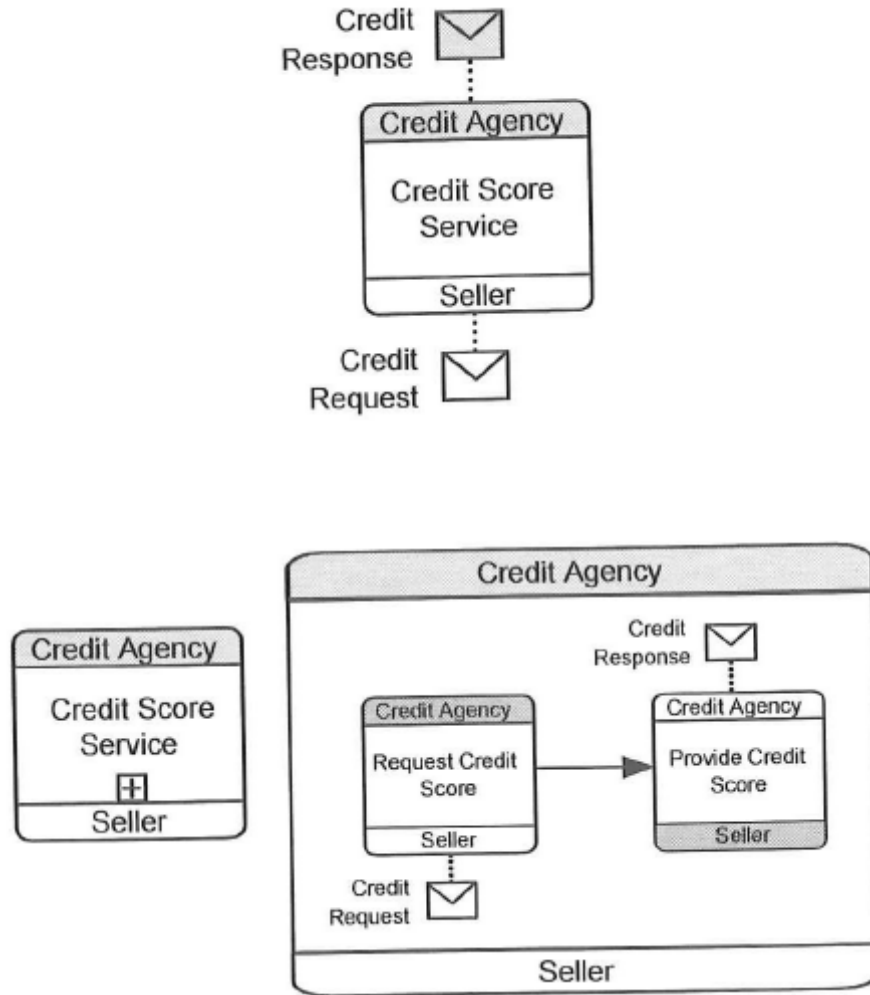

Collaboration (between pools):

Choreography:

- Messages are shown as envelopes on both interaction diagrams

- In Collaboration diagrams Message Flows appear as dashed arrows with Messages optionally overlaid on them.

- In Choreography, Message Flows are shown as Choreography Activities, with Messages linked to them by dotted lines called Associations.

  - ♦ unshaded bands of Choreography Activities are Participants sending the Message

  - ♦ shaded bands are the ones receiving them.

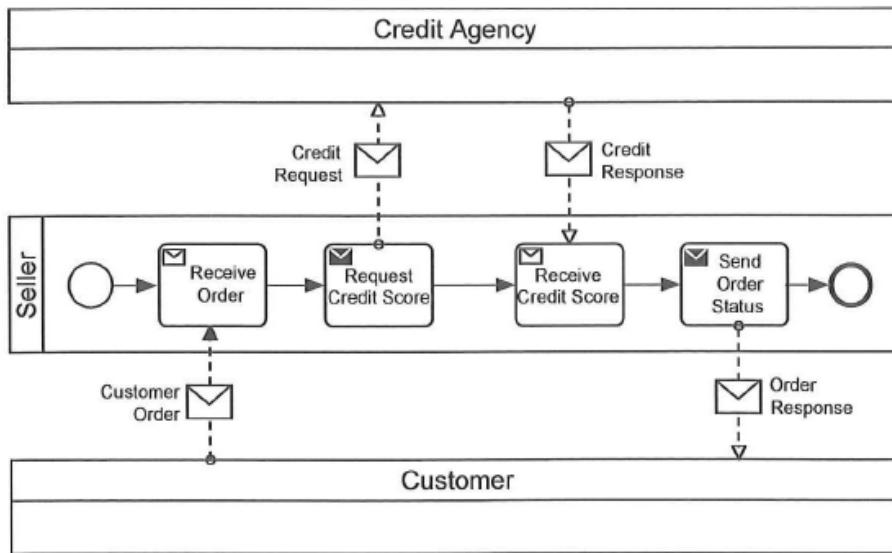- There can be sequences of Message Flows in Choreography

Grouping Message Flow

- **Choreography diagrams can represent multiple Message Flows**

- **The above Interaction has two Message Flows without explicit sequencing**

- **Interactions with a [+] can be expanded; representing explicit sequencing of a Message Flow**
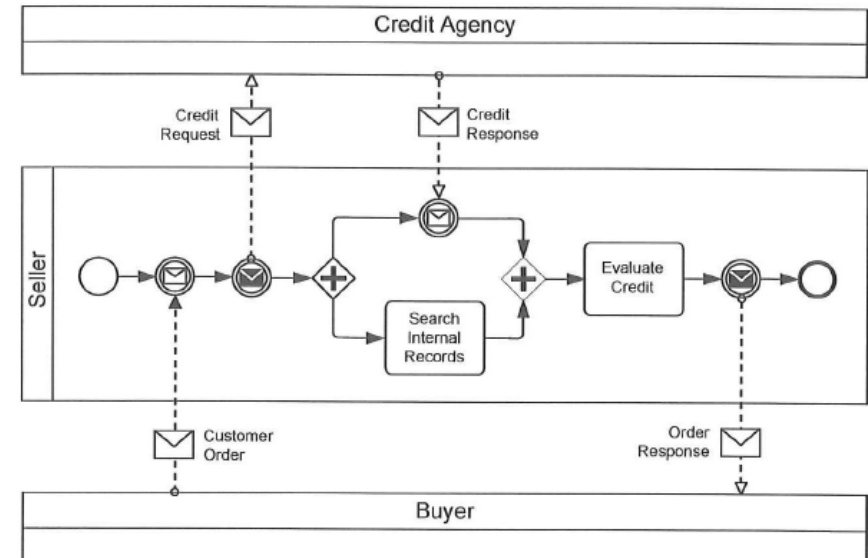
Interaction Processes:
Public and Private Process in Collaborations

Process in a collaboration

Corresponding private process

- The left process could be public, because it only sends and receives Messages
- Figure 20 shows a possible private Process containing Activities that are not interactive and unsually not shown to other Participants
- The Events used for sending and receiving Messages have the same effects as the Send and Receive Tasks of the left process