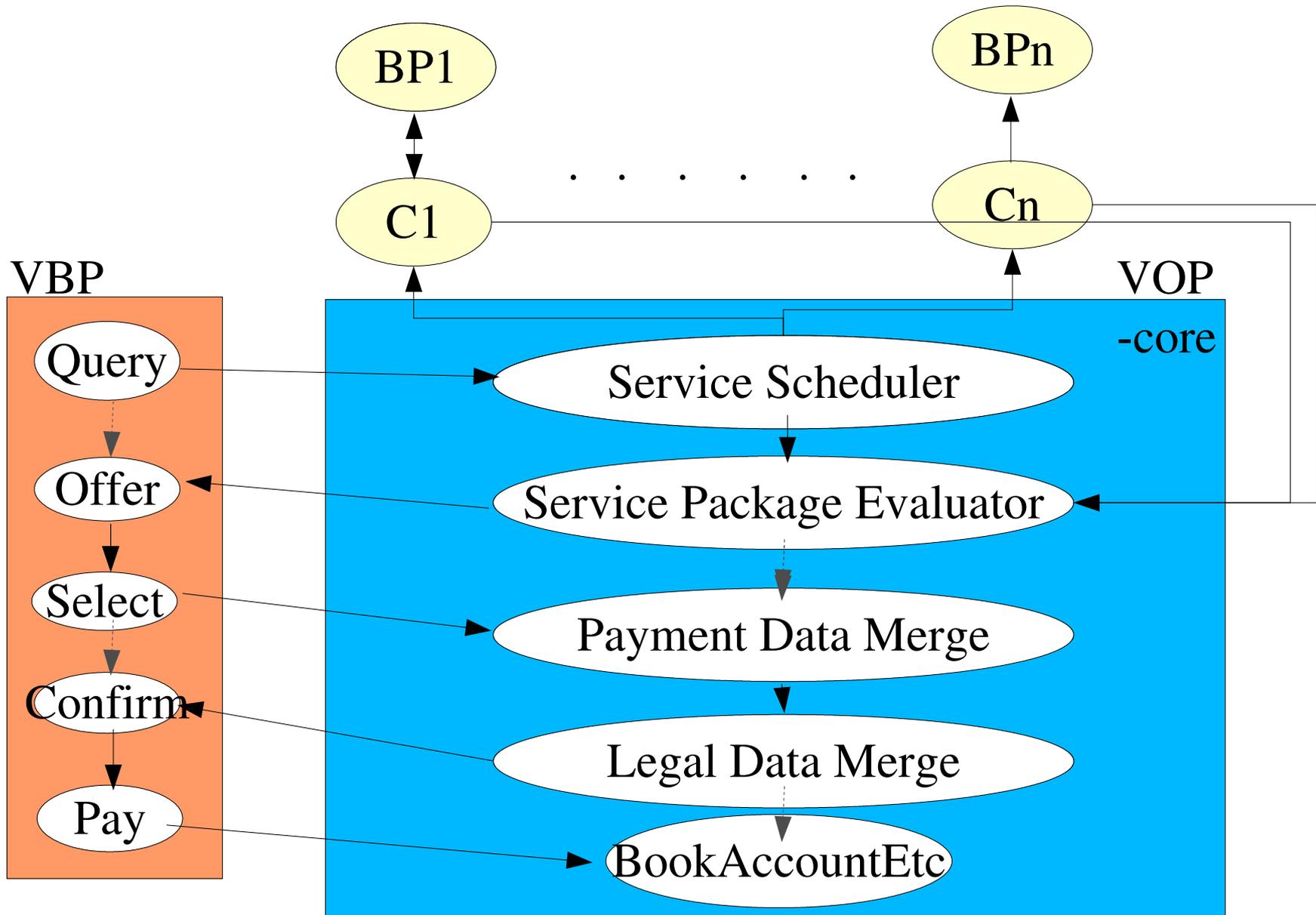


# A CBP (communicating with BPs)



# Legend

- CBP : Collaborative Business Process
- $VOP_{core}$  : (Overall) Virtual Organization Process
- VBP : (Virtual) Business Process (as the user sees it)
- BP(i) : Business Process i (Private View)
- C(i) : Choreographer Process i (External View)
- WS-DL: (web service description language)  
used to describe the data model of the BP  
service.

# Examples

- “The Ryan-Air Business Process”
  - modelled directly from the Ryan Air Web pages.
  - consists of
    - a class diagram (roughly corresponding to a WS-DL, but using OCL in order to specify side-constraints of the data model)
    - a statechart diagram (modeling the activities as such), could be extended to activity diagrams.
    - Problem: Abstract Description of Synchronization VERY tedious in Activity Diagrams ...  
One would like to describe Core Processes independently...

# Understanding “Choreographies”

- There are essentially two approaches to model “CDL”:
- A: Renaming Approach:
  - Events in BP's are renamed and synchronized with synchronization points in VOP-core
  - In CSP notation:
    - $(BP(i) [\Sigma_{bp(i)} \mapsto \Sigma_{core}]) \llbracket \Sigma_{core} \rrbracket VO_{core}$
    - Advantage: Semantics simple;
    - Problem: No flexibility in process adaption; synchronization points must fit one-to-one.

# Understanding “Choreographies”

- There are essentially two approaches to model “CDL”:
- B: The choreographer process approach:
  - Events in BP's are synchronized with a *choreographer process*  $C(i)$ . It collects data, handles exceptions, and transfers them to the VOP-core protocol. In CSP notation:
  - $(BP(i) \llbracket \Sigma_{bp(i)} \rrbracket C(i)) \llbracket \Sigma_{core} \rrbracket VO_{core}$
  - Advantage: Very flexible
  - Problem: Semantics more involved, explicit  $C(i)$  necessary