

WS-BPEL 2.0

Language Constructs Overview

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WS-BPEL Language Constructs

- WS-BPEL process definition
- Partner links
- Variables
- Variable properties
- Correlation sets
- Basic and structured activities
- Scopes
- Compensation handling

WS-BPEL Process Definition

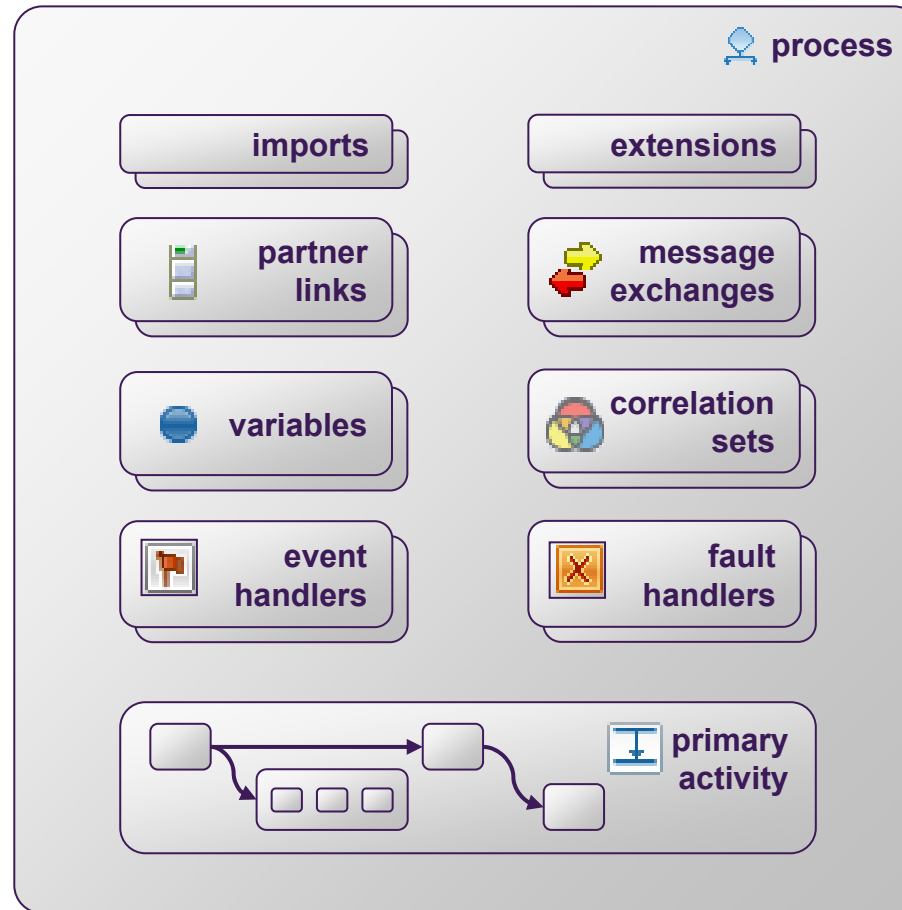
Declare dependencies on external XML Schema or WSDL definitions

Relationships that a WS-BPEL process will employ in its behavior

Data holding state of a business process or exchanged with partners

Concurrently process inbound messages or timer alarms

Perform the process logic – any number of activities may be recursively nested



Declare namespaces of WS-BPEL extension attributes and elements

Relationship between inbound and reply message activities

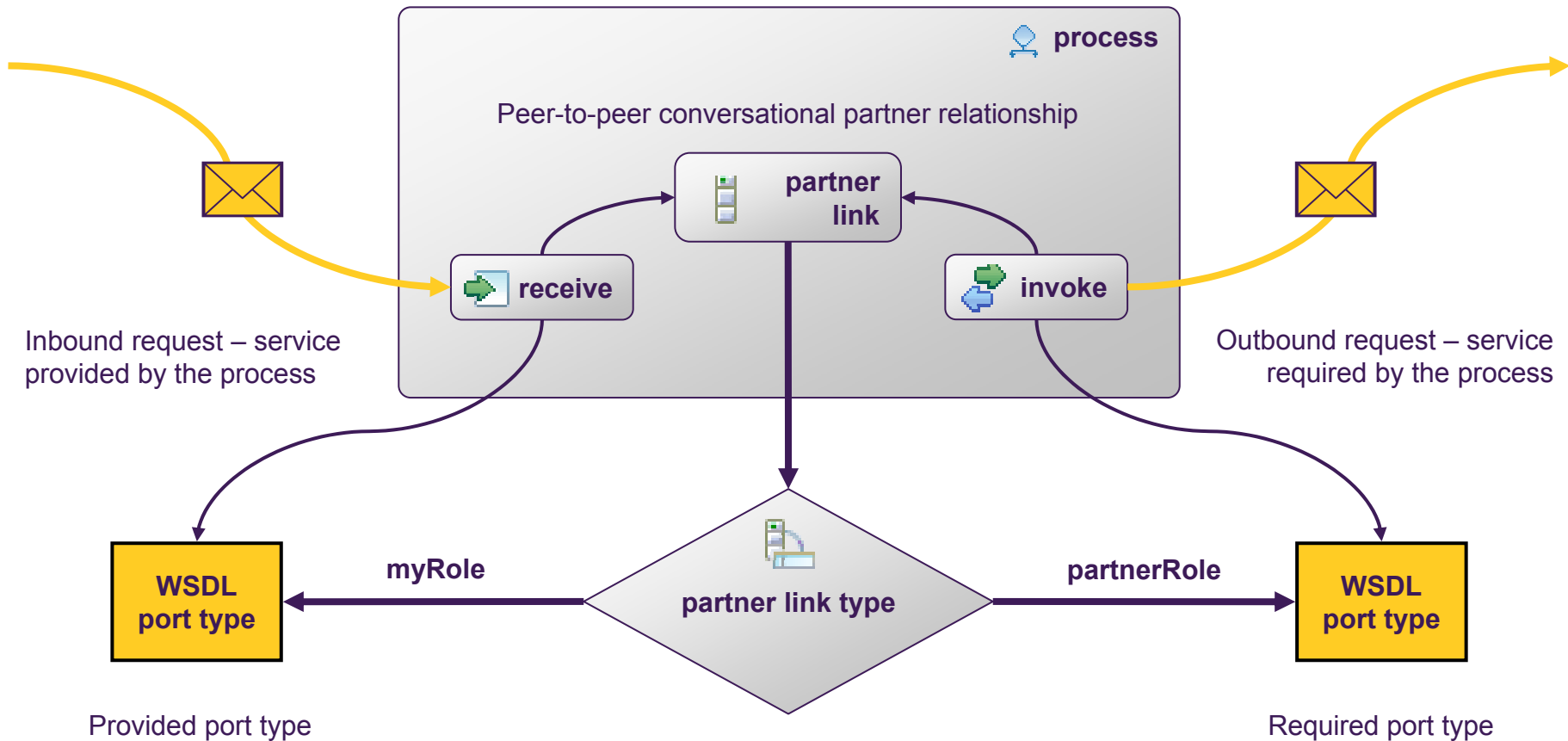
Application data fields that together identify a conversation

Deal with exceptional situations in a process

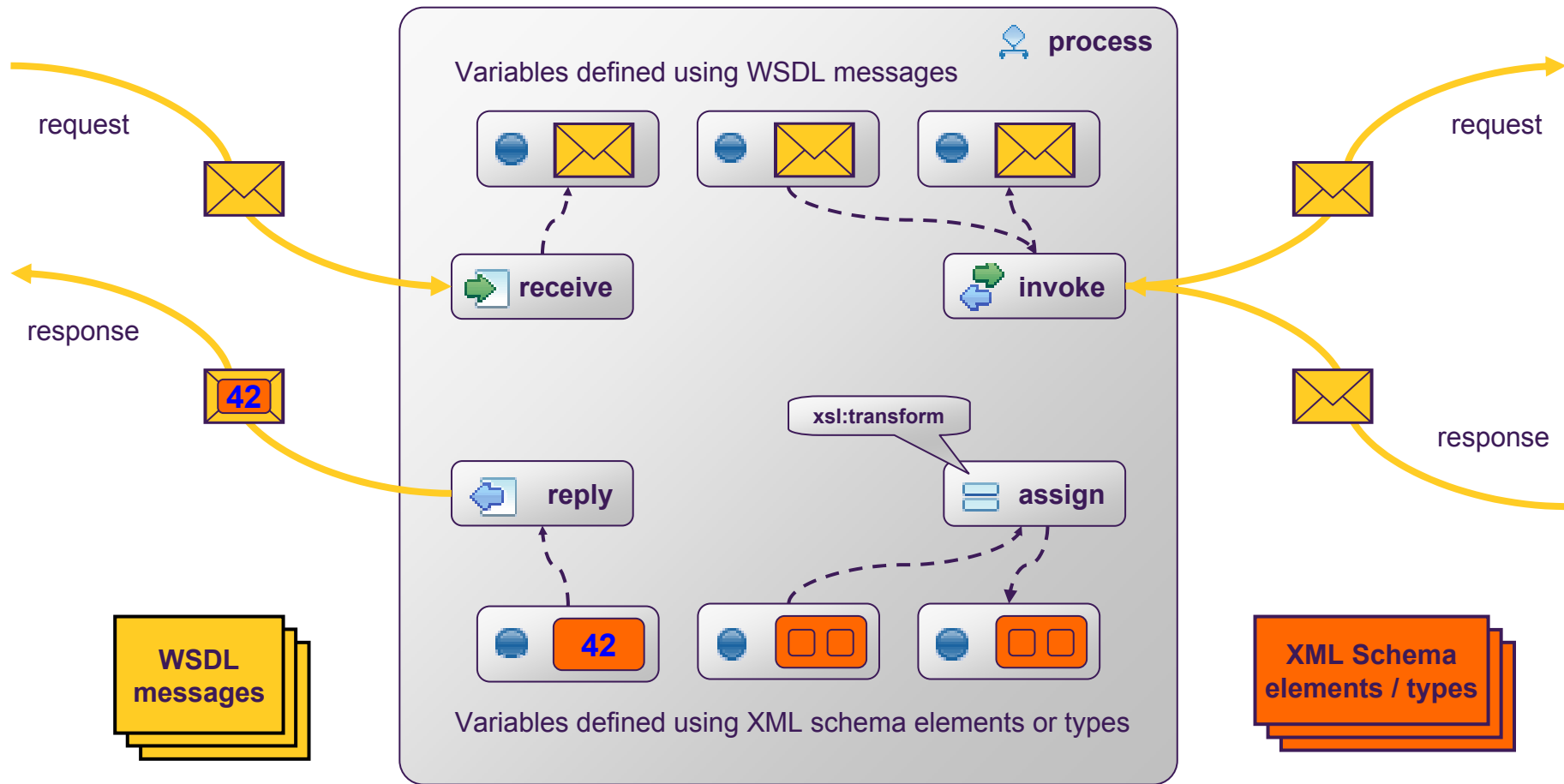
WSDL definitions

XML schemas

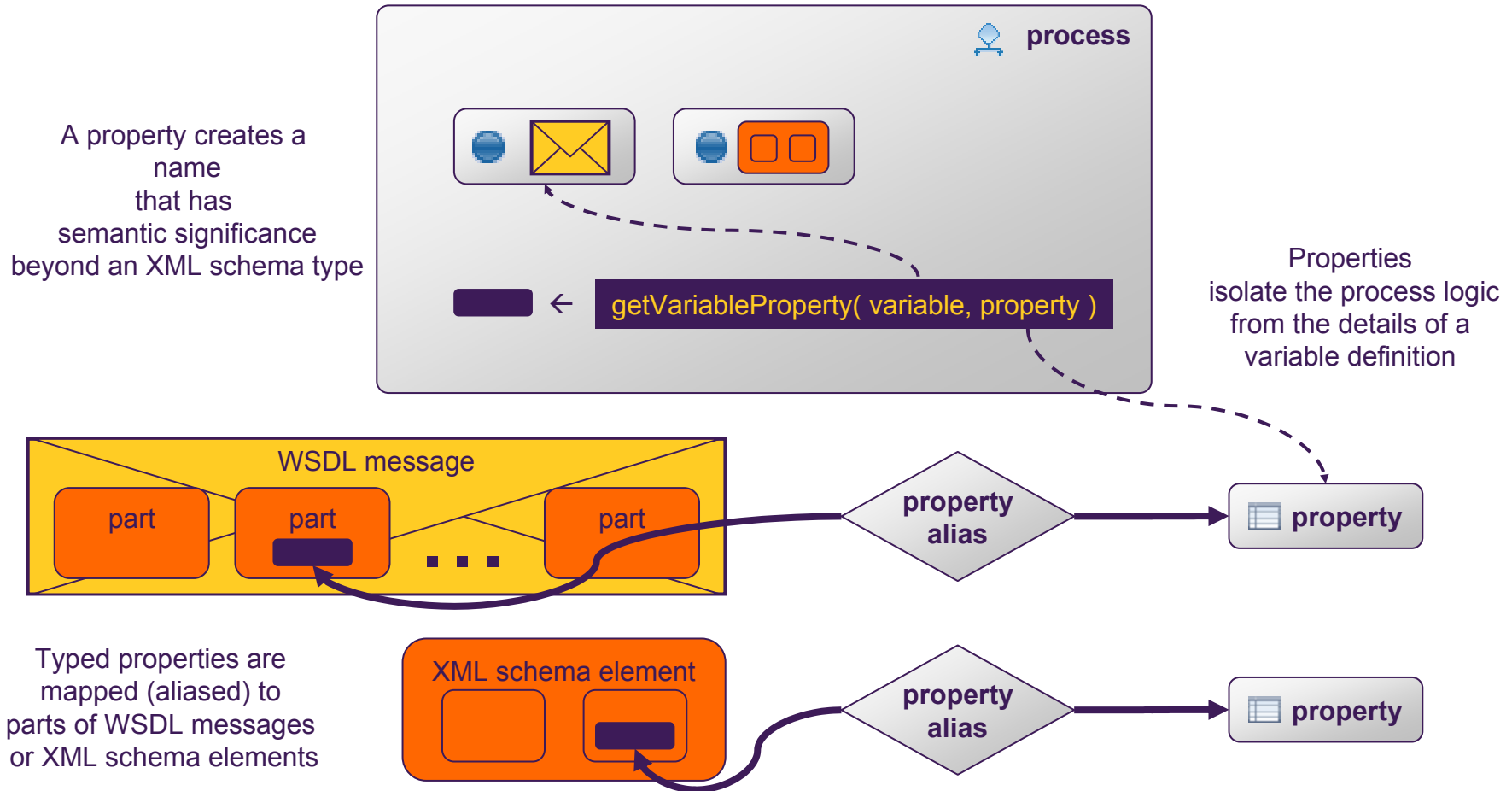
Partner Links



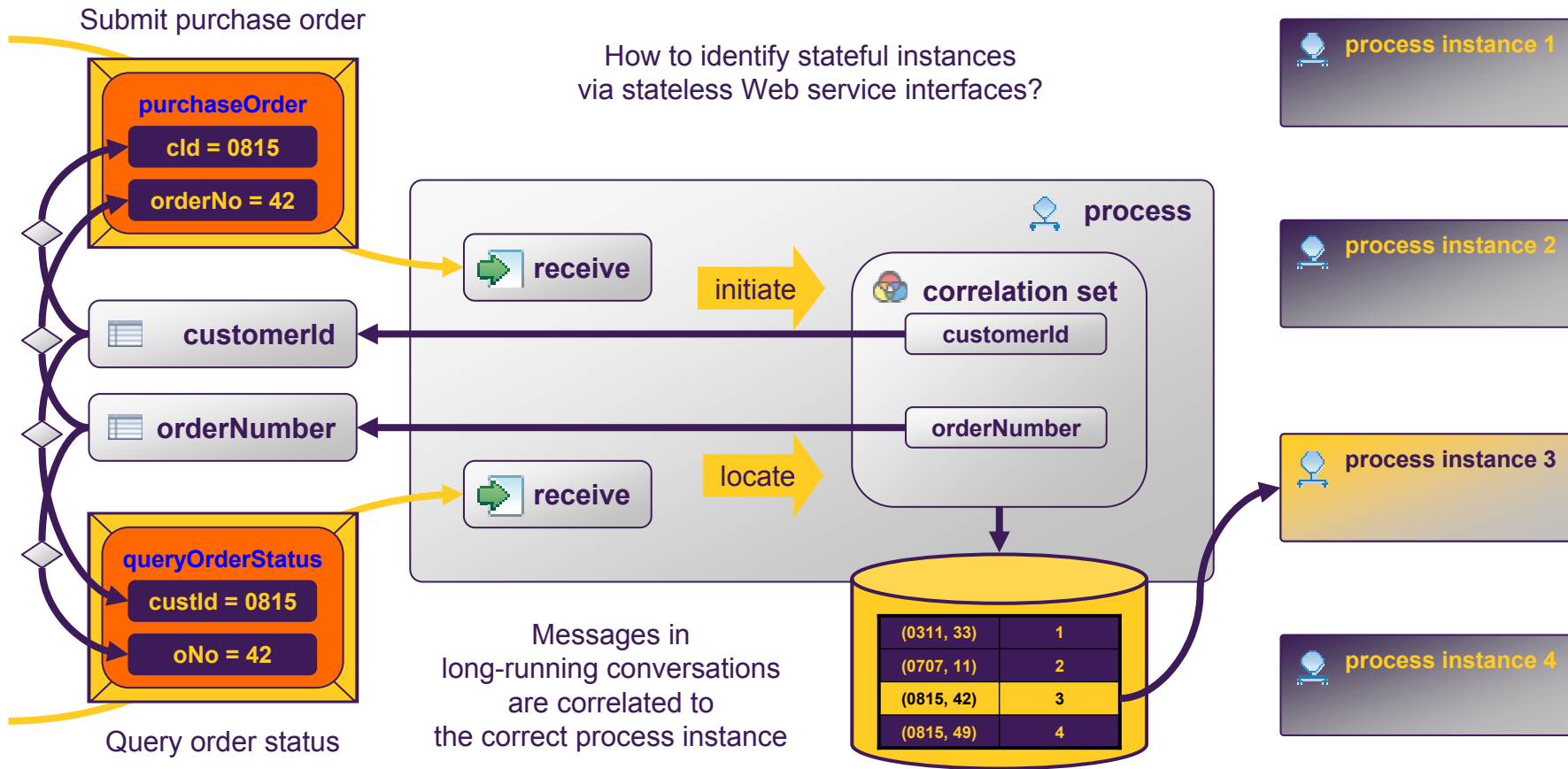
Variables



Variable Properties



Properties and Correlation Sets



Basic Activities



Do a blocking wait for a matching message to arrive / send a message in reply

Invoke a one-way or request-response operation

Update the values of variables or partner links with new data

Validate XML data stored in variables

Generate a fault from inside the business process

Forward a fault from inside a fault handler

Immediately terminate execution of a business process instance

Invoke compensation on all completed child scopes in default order

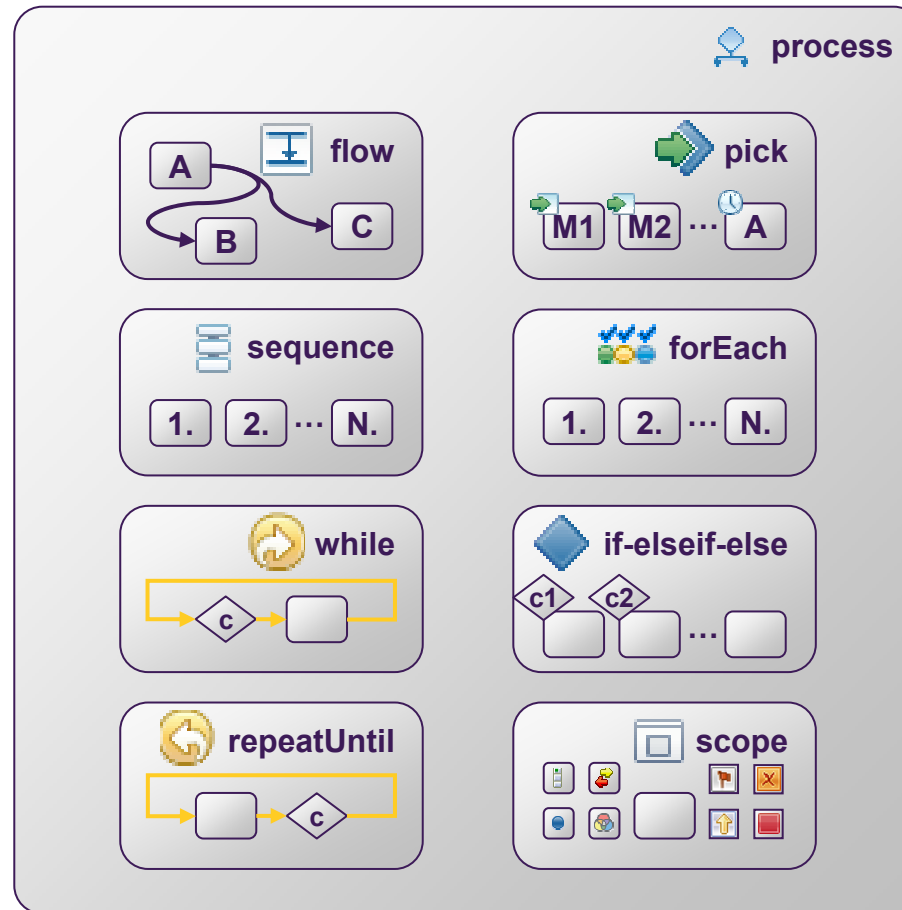
Invoke compensation on one completed child scope

Wait for a given time period or until a certain time has passed

No-op instruction for a business process

Wrapper for language extensions

Structured Activities



Contained activities are executed in parallel, partially ordered through control links

Contained activities are performed sequentially in lexical order

Contained activity is repeated while a predicate holds

Contained activity is repeated until a predicate holds

Block and wait for a suitable message to arrive (or time out)

Contained activity is performed sequentially or in parallel, controlled by a specified counter variable

Select exactly one branch of activity from a set of choices

Associate contained activity with its own local variables, partner links, etc., and handlers

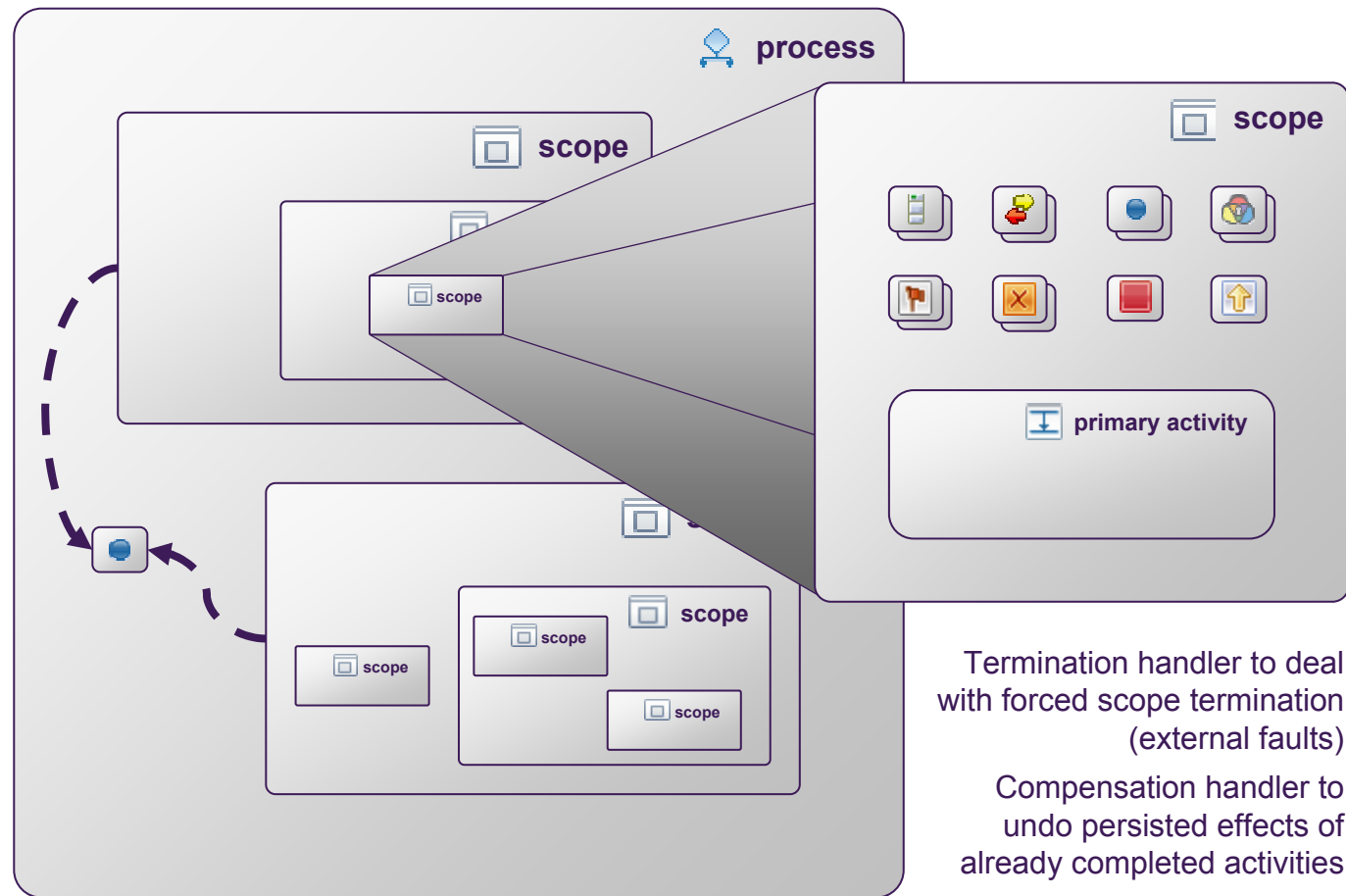
Scopes

Scopes provide a context which influences the execution behavior of its enclosed activities

Local declarations – partner links, message exchanges, variables, correlation sets

Local handlers – event handlers, fault handlers, a termination handler, and a compensation handler

Isolated scopes provide control of concurrent access to shared resources



Termination handler to deal with forced scope termination (external faults)

Compensation handler to undo persisted effects of already completed activities

Compensation Handling

