WS-Agreement Negotiation Perspective

K.P. Clark, M.A. Oey, M.E. Warnier, F.M.T. Brazier
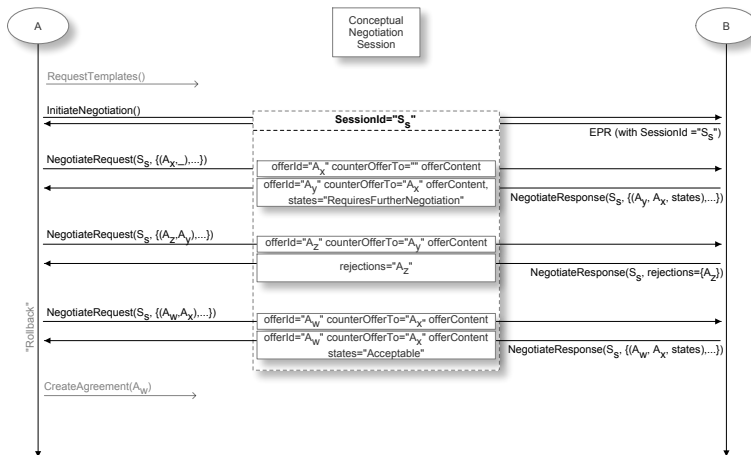
November 18, 2009
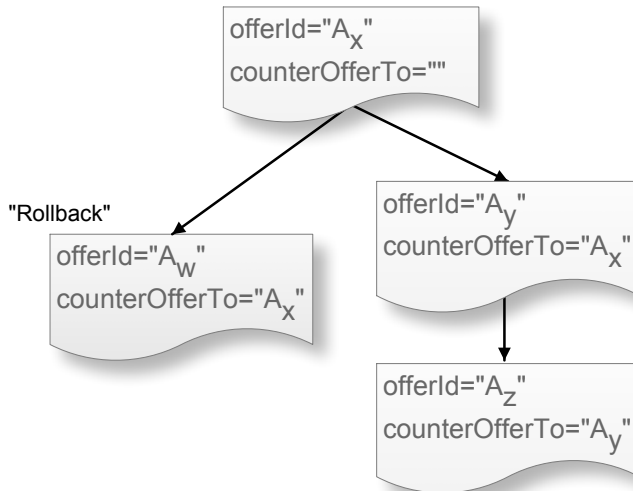
Objective

A multi-round negotiation protocol that supports:

- state information in protocol (messages)
- equal access for all parties to all negotiation documents
- discovery during negotiation using extended Agreement
- optional ability to rollback to a previous step

Negotiation Session Concept

Message Ordering

Session Overview

WS-Agreement
Negotiation
Perspective

Objective

Proposal

Appendix

NegotiationSession

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sessionId
terminate()
sessionExpiration

NegotiateRequest()
NegotiateResponse()
Rejection()
Offer()

NegotiateRequest()

- SessionId
- set of Offer
  - offerId
  - counterOfferTo
  - offerContent
  - state
  - offerExpiration

NegotiateResponse()

- SessionId
- set of Rejectons
  - offerId
  - explanation
- set of Offer
  - offerId
  - counterOfferTo
  - offerContent (Agreement +X)
  - state
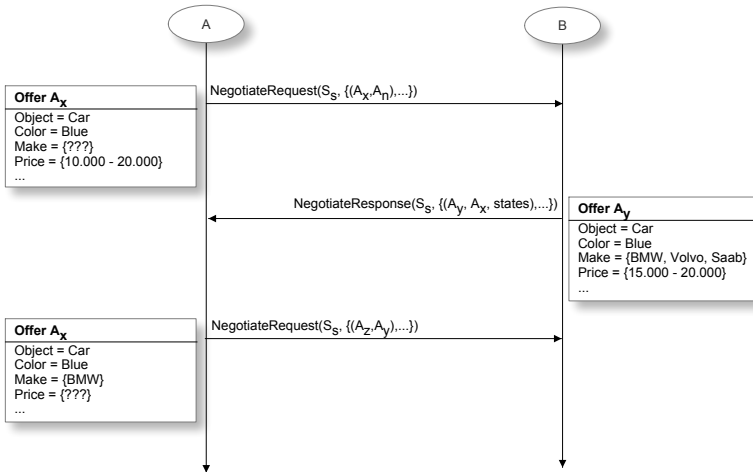 - offerExpiration

Agreement (+X)

- partially completed
  template/agreement
- use of CreationConstraints
  created by each party to
  "guide" responses
- special syntax to indicate:
- focus of request
- priorities
- negotiability
- etc.

Agreement (+X)

A   B

Offer A_x
Object = Car
Color = Blue
Make = {???}
Price = {10.000 - 20.000}
...

NegotiateRequest(S_s, {(A_x,A_n),...})

NegotiateResponse(S_s, {(A_y, A_x, states),...})

Offer A_y
Object = Car
Color = Blue
Make = {BMW, Volvo, Saab}
Price = {15.000 - 20.000}
...

Offer A_x
Object = Car
Color = Blue
Make = {BMW}
Price = {???}
...

NegotiateRequest(S_s, {(A_z,A_y),...})

Terminology

sessionId Unique number used to group documents (offers, counter-offers) pertaining to a certain negotiation session. Created by agreement responder and included in End Point Reference (EPR).

offerId Equivalent to the AgreementId as defined by WS-Agreement. Unique number used to identify each offer or counter-offer made. Can be used to identify different versions of offers pertaining to the same negotiation session. Each unique offer must have a unique OfferId.

counterOfferTo This takes the value of the ID of the offer that was the basis for the next offer. For instance, if offer A_y is a counter-offer to offer A_x then ResponseTo equals A_x. This is used to create a linked list of the sequence of offers and counter-offers.

state State of an offer. (e.g. Accceptable, RequiresFurtherNegotiation, etc.)

Messages

InitiateNegotiation() This operation performed by the agreement initiator to
begin a negotation session. Can optionally be performed by
the agreement resonder to allow sending unsolicited offers to
the initiator. This should optionally include an existing
sessionId if needed to join an existing session, for instance, a
second session that the responder uses to send offers to the
initiator. The response will include the End Point Reference
(EPR) to the negotiation service that includes the sessionId.

NegotiationRequest() This operation performed by the agreement initiator
when submitting an offer. The message contents include the
sessionId and a set of offers with their meta-data. This
includes (1) the ID of the new offer, (2) the ID of the offer
being responded to, (3) the state of the offer and (4) the
offer itself.

NegotiationResponse() In response to a negotiation request, the agreement
responder returns a set of counter-offers and a list of rejected
offers with optional explanations. Additionally, possible to
respond with NULL to enable the other party to initiate the
next step in the negotiation.

Terminate() Sent by either party to explicitly terminate the negotiation
session.

InvalidateOffer() Invalidate a previous offer before the explicit expiry
information.

... other control messages?