

FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Propose Communicative Act Specification

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33 specifications and their current status may be found in the FIPA List of Specifications. A list of terms and abbreviations
34 used in the FIPA specifications may be found in the FIPA Glossary.

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37 specifications and upcoming meetings may be found at <http://www.fipa.org/>.

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42 **1 Scope**

43 This document specifies the Propose communicative act that is compliant to [FIPA00037] requirements.

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2 Propose

Summary	The action of submitting a proposal to perform a certain action, given certain preconditions.
Content	A tuple containing an action description, representing the action that the sender is proposing to perform and a proposition representing the preconditions on the performance of the action.
Description	<p><i>Propose</i> is a general-purpose action to make a proposal or respond to an existing proposal during a negotiation process by proposing to perform a given action subject to certain conditions being true. The actual protocol under which the negotiation process is being conducted is known either by prior agreement, or is explicitly stated in the <code>:protocol</code> parameter of the message.</p> <p>The proposer (the sender of the <i>propose</i>) informs the receiver that the proposer will adopt the intention to perform the action once the given precondition is met and the receiver notifies the proposer of the receiver's intention that the proposer performs the action.</p> <p>A typical use of the condition attached to the proposal is to specify the price of a bid in an auctioning or negotiation protocol.</p>
Formal Model	<pre><i, propose(j, <i, act>,)> <i, inform(j, I_j Done(<i, act>,) I_i Done(<i, act>,))> FP: B_i B_i (Bif_j Uif_j) RE: B_j</pre> <p>Where:</p> $= I_j \text{ Done}(<i, act>,) \quad I_i \text{ Done}(<i, act>,)$ <p>Agent <i>i</i> informs <i>j</i> that, once <i>j</i> informs <i>i</i> that <i>j</i> has adopted the intention for <i>i</i> to perform action <i>act</i>, and the preconditions for <i>i</i> performing <i>act</i> have been established, <i>i</i> will adopt the intention to perform <i>act</i>.</p>
Example	<p>Agent <i>j</i> informs <i>i</i> that it will sell 50 boxes of plums for \$200.</p> <pre>(propose :sender j :receiver i :content ((action j (sell plum 50)) (cost 200)) :ontology fruit-market :in-reply-to proposal2 :language FIPA-SL ...)</pre>

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47 **3 References**

- 48 [FIPA00037] FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
49 <http://www.fipa.org/specs/fipa00037/>