

FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Agree Communicative Act Specification

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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 Agree communicative act that is compliant to [FIPA00037] requirements.

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2 Agree

Summary	The action of agreeing to perform some action, possibly in the future.
Content	A tuple, consisting of an action expression denoting the action to be done, and a proposition giving the conditions of the agreement.
Description	<p><i>Agree</i> is a general-purpose agreement to a previously submitted <i>request</i> act (see [FIPA00056]) to perform some action. The agent sending the agreement informs the receiver that it does intend to perform the action, but not until the given precondition is true.</p> <p>The proposition given as part of the <i>agree</i> act indicates the qualifiers, if any, that the agent is attaching to the agreement. This might be used, for example, to inform the receiver when the agent will execute the action that it is agreeing to perform.</p> <p><i>Pragmatic note:</i> the precondition on the action being agreed to can include the perlocutionary effect of some other CA, such as an <i>inform</i> act (see [FIPA00046]). When the recipient of the agreement (e.g. a contract manager) wants the agreed action to be performed, it should then bring about the precondition by performing the necessary CA. This mechanism can be used to ensure that the contractor defers performing the action until the manager is ready for the action to be done.</p>
Formal Model	<pre><i, agree(j, <i, act>,)> <i, inform(j, I_i Done(<i, act>,))> FP: B_i B_i (Bif_j Uif_j) RE: B_j</pre> <p>Where:</p> <pre>= I_i Done(<i, act>,)</pre> <p>Note that the formal difference between the semantics of <i>agree</i> and <i>accept-proposal</i> (see [FIPA00039]) rests on which agent is performing the action.</p>
Example	<p>Agent <i>i</i> (a job-shop scheduler) requests <i>j</i> (a robot) to deliver a box to a certain location. <i>J</i> answers that it agrees to the request but it has low priority.</p> <pre>(request :sender i :receiver j :content (action j (deliver box017 (location 12 19))) :protocol FIPA-Request :reply-with order567) (agree :sender j :receiver i :content ((action j (deliver box017 (location 12 19)) (priority order567 low))) :in-reply-to order567 :protocol FIPA-Request)</pre>

48 **3 References**

- 49 [FIPA00037] FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
50 <http://www.fipa.org/specs/fipa00037/>
- 51 [FIPA00039] FIPA Accept Proposal Communicative Act Specification. Foundation for Intelligent Physical Agents,
52 2000. <http://www.fipa.org/specs/fipa00039/>
- 53 [FIPA00046] FIPA Inform Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
54 <http://www.fipa.org/specs/fipa00046/>
- 55 [FIPA00056] FIPA Reject Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
56 <http://www.fipa.org/specs/fipa00056/>