FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Reject Proposal Communicative Act Specification

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Foreword

The Foundation for Intelligent Physical Agents (FIPA) is an international organization that is dedicated to promoting the industry of intelligent agents by openly developing specifications supporting interoperability among agents and agent-based applications. This occurs through open collaboration among its member organizations, which are companies and universities that are active in the field of agents. FIPA makes the results of its activities available to all interested parties and intends to contribute its results to the appropriate formal standards bodies.

The members of FIPA are individually and collectively committed to open competition in the development of agent-based applications, services and equipment. Membership in FIPA is open to any corporation and individual firm, partnership, governmental body or international organization without restriction. In particular, members are not bound to implement or use specific agent-based standards, recommendations and FIPA specifications by virtue of their participation in FIPA.

The FIPA specifications are developed through direct involvement of the FIPA membership. The status of a specification can be either Preliminary, Experimental, Standard, Deprecated or Obsolete. More detail about the process of specification may be found in the FIPA Procedures for Technical Work. A complete overview of the FIPA specifications and their current status may be found in the FIPA List of Specifications. A list of terms and abbreviations used in the FIPA specifications may be found in the FIPA Glossary.

FIPA is a non-profit association registered in Geneva, Switzerland. As of January 2000, the 56 members of FIPA represented 17 countries worldwide. Further information about FIPA as an organization, membership information, FIPA specifications and upcoming meetings may be found at http://www.fipa.org/.

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1   Scope

This document specifies the Reject Proposal communicative act which is compliant to [FIPA00037] requirements.

2 Reject Proposal

Summary	The action of rejecting a proposal to perform some action during a negotiation.
Content	A tuple consisting of an action description and a proposition which formed the original proposal being rejected, and a further proposition which denotes the reason for the rejection.
Description	*Reject-proposal* is a general-purpose rejection to a previously submitted proposal. The agent sending the rejection informs the receiver that it has no intention that the recipient performs the given action under the given preconditions. The additional proposition represents a reason that the proposal was rejected. Since it is in general hard to relate cause to effect, the formal model below only notes that the reason proposition was believed true by the sender at the time of the rejection. Syntactically the reason on the left-hand side should be treated as a causal explanation for the rejection, even though this is not established by the formal semantics.

Formal Model	$\langle i,$ `reject-proposal`$(j, \langle j, act \rangle, \phi, \psi)\rangle \equiv$
	
	 $\langle i,$ `inform`$(j, \neg I_i$ `Done`$(\langle j, act \rangle, \phi) \wedge \psi)\rangle$
	
	  FP : $B_i\ \alpha \wedge \neg B_i\ (\text{Bif}_j\ \alpha \vee \text{Uif}_j\ \alpha)$
	  RE : $B_j\ \alpha$
	
	Where:
	
	 $\alpha = \neg I_i$ `Done`$(\langle j, act \rangle, \phi) \wedge \psi$
	
	Agent *i* informs *j* that, because of proposition ψ, *i* does not have the intention for *j* to perform action *act* with precondition ϕ.

Example	Agent i informs j that it rejects an offer from j to sell.
	
	``
	(reject-proposal
	  :sender i
	  :receiver j
	  :content
	    ((action j
	       (sell plum 50))
	     (price-too-high 50))
	  :in-reply-to proposal13)
	``

3   References

[FIPA00037]   FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
               `http://www.fipa.org/specs/fipa00037/`
[FIPA00044]   FIPA Disconfirm Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
               `http://www.fipa.org/specs/fipa00044/`