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FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

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FIPA Propose Communicative Act Specification

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18   *Geneva, Switzerland*

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/.

Contents

1 Scope

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

45 **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	*Propose* 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 `:protocol` parameter of the message. The proposer (the sender of the *propose*) 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. A typical use of the condition attached to the proposal is to specify the price of a bid in an auctioning or negotiation protocol.
Formal Model	`<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`$_j$`  Where:   `= I`$_j$` Done(<i, act>,) I`$_i$` Done(<i, act>,)` Agent *i* informs *j* that, once *j* informs *i* that *j* has adopted the intention for *i* to perform action *act*, and the preconditions for *i* performing *act* have been established, *i* will adopt the intention to perform *act*.

Example	Agent j informs i that it will sell 50 boxes of plums for $200.
	
	`(propose`
	`  :sender j`
	`  :receiver i`
	`  :content`
	`    ((action j`
	`      (sell plum 50))`
	`      (cost 200))`
	`  :ontology fruit-market`
	`  :in-reply-to proposal2`
	`  :language FIPA-SL`
	`  …)`

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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/`