FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA CFP Communicative Act Specification

Document title	FIPA CFP Communicative Act Specification		
Document number	DC00042B	Document source	FIPA TC C
Document status	Deprecated	Date of this status	2001/08/10
Supersedes	None		
Contact	fab@fipa.org		
Change history			
2000/10/16	Deprecated by FIPA00037		
2001/08/10	Line numbering added		

Foreword

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1 Scope

This document specifies the Call for Proposal (CFP) communicative act that is compliant to [FIPA00037] requirements.

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Summary	The action of calling for proposals to perform a given action.
Content	A tuple containing an action expression denoting the action to be done and a proposition denoting the preconditions on the action.
Description	*CFP* is a general-purpose action to initiate a negotiation process by making a call for proposals to perform the given action. The actual protocol under which the negotiation process is established is known either by prior agreement, or is explicitly stated in the `:protocol` parameter of the message. In normal usage, the agent responding to a *cfp* should answer with a proposition giving its conditions on the performance of the action. The responder's conditions should be compatible with the conditions originally contained in the *cfp*. For example, the *cfp* might seek proposals for a journey from Frankfurt to Munich, with a condition that the mode of travel is by train. A compatible proposal in reply would be for the 10.45 express train. An incompatible proposal would be to travel by airplane. Note that *cfp* can also be used to simply check the availability of an agent to perform some action.

Formal Model	<pre><i, cfp(j, <j, act>, (x))>
	  <i, query-ref(j, x (I_i Done(<j, act>, (x))
	                       (I_j Done(<j, act>, (x))))>
	    FP: Bref_i(x (x)) Uref_i(x (x))
	                       B_i I_j Done(<j, Inform-ref(i, x (x))>)
	    RE: Done(<j, Inform(i, x (x) = r_1)>| … |<j,
	                  Inform(i, x (x) = r_k)>)</pre>
	Where:
	
	(x) = I_i Done(<j, act>, (x)) I_j Done(<j, act>, (x))
	
	Agent *i* asks agent *j*: "What is the '*x*' such that you will perform action *'act'* when ' (*x*)' holds?"

Example	Agent j asks i to submit its proposal to sell 50 boxes of plums:
	
	<pre>(cfp
	  :sender j
	  :receiver i
	  :content
	    ((action i
	      (sell plum 50))
	      true)
	  :ontology fruit-market)</pre>

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48   3   References

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