

# FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

## FIPA CFP Communicative Act Specification

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

© 2000 Foundation for Intelligent Physical Agents - <http://www.fipa.org/>

*Geneva, Switzerland*

### Notice

Use of the technologies described in this specification may infringe patents, copyrights or other intellectual property rights of FIPA Members and non-members. Nothing in this specification should be construed as granting permission to use any of the technologies described. Anyone planning to make use of technology covered by the intellectual property rights of others should first obtain permission from the holder(s) of the rights. FIPA strongly encourages anyone implementing any part of this specification to determine first whether part(s) sought to be implemented are covered by the intellectual property of others, and, if so, to obtain appropriate licenses or other permission from the holder(s) of such intellectual property prior to implementation. This specification is subject to change without notice. Neither FIPA nor any of its Members accept any responsibility whatsoever for damages or liability, direct or consequential, which may result from the use of this specification.

## 19 **Foreword**

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

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

30 The FIPA specifications are developed through direct involvement of the FIPA membership. The status of a  
31 specification can be either Preliminary, Experimental, Standard, Deprecated or Obsolete. More detail about the process  
32 of specification may be found in the FIPA Procedures for Technical Work. A complete overview of the FIPA  
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.

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

38 **Contents**

39	1	Scope .....	1
40	2	Call for Proposal.....	2
41	3	References.....	3
42			

42 **1 Scope**

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

44

45

46

46

## 2 Call for Proposal

<b>Summary</b>	The action of calling for proposals to perform a given action.
<b>Content</b>	A tuple containing an action expression denoting the action to be done and a proposition denoting the preconditions on the action.
<b>Description</b>	<p><i>CFP</i> 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 <code>:protocol</code> parameter of the message.</p> <p>In normal usage, the agent responding to a <i>cfp</i> 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 <i>cfp</i>. For example, the <i>cfp</i> 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.</p> <p>Note that <i>cfp</i> can also be used to simply check the availability of an agent to perform some action.</p>
<b>Formal Model</b>	<pre> &lt;i, cfp( j, &lt;j, act&gt;, (x) )&gt;   &lt;i, query-ref(j, x (I<sub>i</sub> Done(&lt;j, act&gt;, (x))                     (I<sub>j</sub> Done(&lt;j, act&gt;, (x))))&gt;     FP: Bref<sub>i</sub>(x (x))    Uref<sub>i</sub>(x (x))         B<sub>i</sub> I<sub>j</sub> Done(&lt;j, Inform-ref(i, x (x))&gt;)     RE: Done(&lt;j, Inform(i, x (x) = r<sub>1</sub>)&gt;   ...   &lt;j,         Inform(i, x (x) = r<sub>k</sub>)&gt;) </pre> <p>Where:</p> <pre> (x) = I<sub>i</sub> Done(&lt;j, act&gt;, (x))    I<sub>j</sub> Done(&lt;j, act&gt;, (x)) </pre> <p>Agent <i>i</i> asks agent <i>j</i>: "What is the 'x' such that you will perform action 'act' when ' (x)' holds?"</p>
<b>Example</b>	<p>Agent <i>j</i> asks <i>i</i> to submit its proposal to sell 50 boxes of plums:</p> <pre> (cfp  :sender j  :receiver i  :content  ((action i  (sell plum 50))  true)  :ontology fruit-market) </pre>

47

48

48 **3 References**

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