FOUNDAION FOR INTELLIGENT PHYSICAL AGENTS

FIPA CFP Communicative Act Specification

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Geneva, Switzerland

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1 Scope

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

| 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

\[
\langle i, \text{cfp}(j, <j, act>, (x))\rangle
\]

\[
\langle i, \text{query-ref}(j, x (I_i \text{ Done}(<j, act>, (x))))\rangle
\]

FP: \(\text{Bref}_i(x (x))\) \(\text{Uref}_i(x (x))\)

\[
\text{B}_i (I_j \text{ Done}(<j, \text{Inform-ref}(i, x (x))))\rangle
\]

RE: Done(<j, Inform(i, x (x) = r_1)> | ... | <j, Inform(i, x (x) = r_k)>)

Where:

\[
(x) = I_i \text{ Done}(<j, act>, (x)) \quad I_j \text{ Done}(<j, act>, (x))
\]

Example

Agent j asks i to submit its proposal to sell 50 boxes of plums:

\[
\text{(cfp :sender j :receiver i :content ((action i (sell plum 50)) true) :ontology fruit-market)}
\]
3 References

http://www.fipa.org/specs/fipa00037/