

FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Iterated Contract Net Interaction Protocol Specification

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1 FIPA Iterated Contract Net Interaction Protocol

The FIPA Iterated Contract Net Interaction Protocol (IP) is an extension of the basic FIPA Contract Net IP (see [FIPA00029]), but it differs by allowing multi-round iterative bidding. As with the FIPA Contract Net IP, the manager issues the initial call for proposals with the *cfp* act (see [FIPA00042]). The contractors then answer with their bids as *propose* acts (see [FIPA00051]) and the manager may then accept one or more of the bids, rejecting the others, or may iterate the process by issuing a revised *cfp*. The intent is that the manager seeks to get better bids from the contractors by modifying the call and requesting new (equivalently, revised) bids. The process terminates when the manager refuses all proposals and does not issue a new *cfp*, accepts one or more of the bids or the contractors all refuse to bid.

The representation of this IP is given in *Figure 1*.

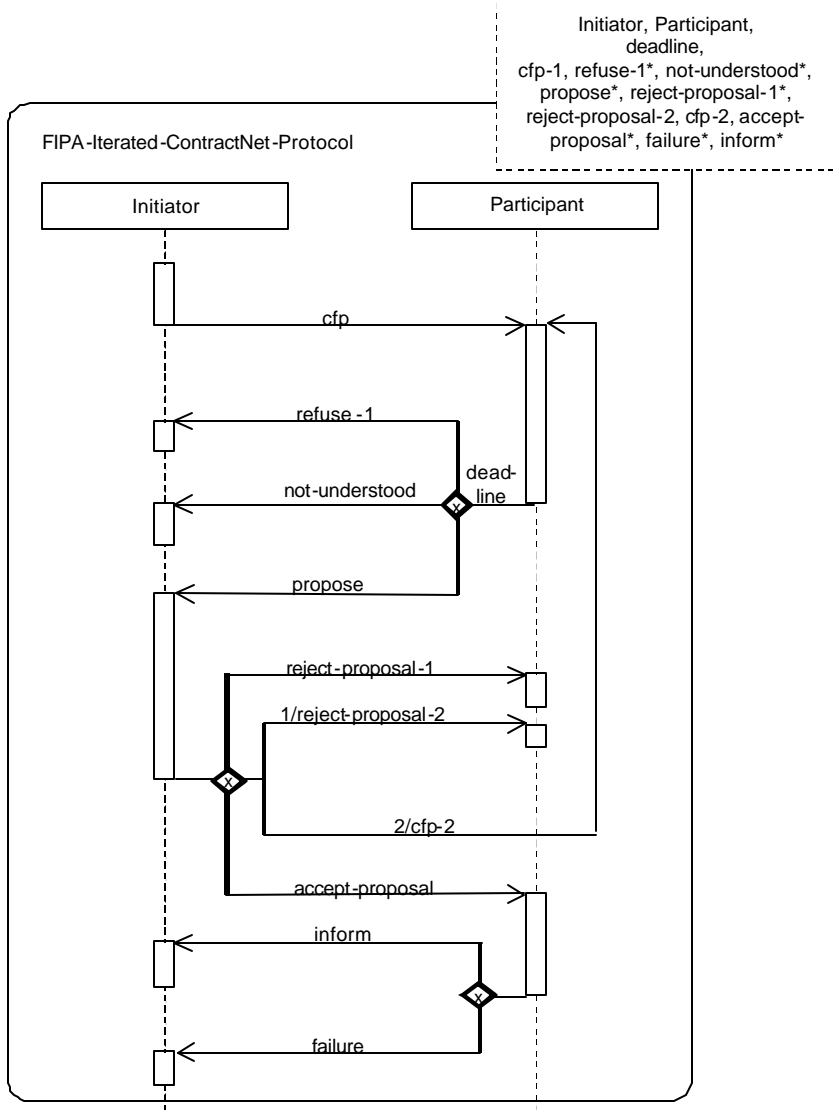


Figure 1: FIPA Iterated Contract Net Interaction Protocol

1.1 Exceptions to Interaction Protocol Flow

This IP is a pattern for a simple interaction type. Elaboration on this pattern will almost certainly be necessary in order to specify all cases that might occur in an actual agent interaction. Real world issues of cancelling actions, asynchrony, abnormal or unexpected IP termination, nested IPs, and the like, are explicitly not addressed here.

2 References

- [FIPA00029] FIPA Contract Net Interaction Protocol Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00029/>
- [FIPA00042] FIPA CFP Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00042/>
- [FIPA00051] FIPA Propose Communicative Act Specification. Foundation for Intelligent Physical Agents, 2000.
<http://www.fipa.org/specs/fipa00051/>