

FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

FIPA Recruiting Interaction Protocol Specification

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29 participation in FIPA.

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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.

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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/>.

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42 **1 FIPA Recruiting Interaction Protocol**

43 The concept of an information brokerage has been widely used in mediated systems and in multi-agent systems in
44 particular (for example, see [Finin97]). The FIPA Recruiting Interaction Protocol (IP) is designed to support these
45 brokerage interactions in multi-agent systems.

46
47 Generally speaking, a broker is an agent which offers a set of communication facilitation services to other agents using
48 some knowledge about the requirements and capabilities of those agents. A typical example of brokering is one in
49 which an agent can request a broker to find one or more agents who can answer a query. The broker then determines a
50 set of appropriate agents to which to forward the query, sends the query to those agents and relays their answers back
51 to the original requestor.

52
53 In the case of recruiting, the answers from the selected target agents go directly back to the original requestor or some
54 designated receivers. The use of brokerage agents can significantly simplify the task of interaction with agents in a
55 multi-agent system. Brokering agents also enable a system to be adaptable and robust in dynamic situations,
56 supporting scalability and security control at the brokering agent.

57
58 The FIPA Recruiting IP is a macro IP, because the *proxy* communicative act (see [FIPA00037]) for brokerage embeds a
59 communicative act as its argument and so the IP for the embedded communicative act is also embedded in this IP.
60 When the embedded communicative act includes some actions that would be done by the agents determined by broker
61 agents, then this IP would be extended for notifying the result of the actions.

62
63 The representation of this IP is given in *Figure 1*.

64

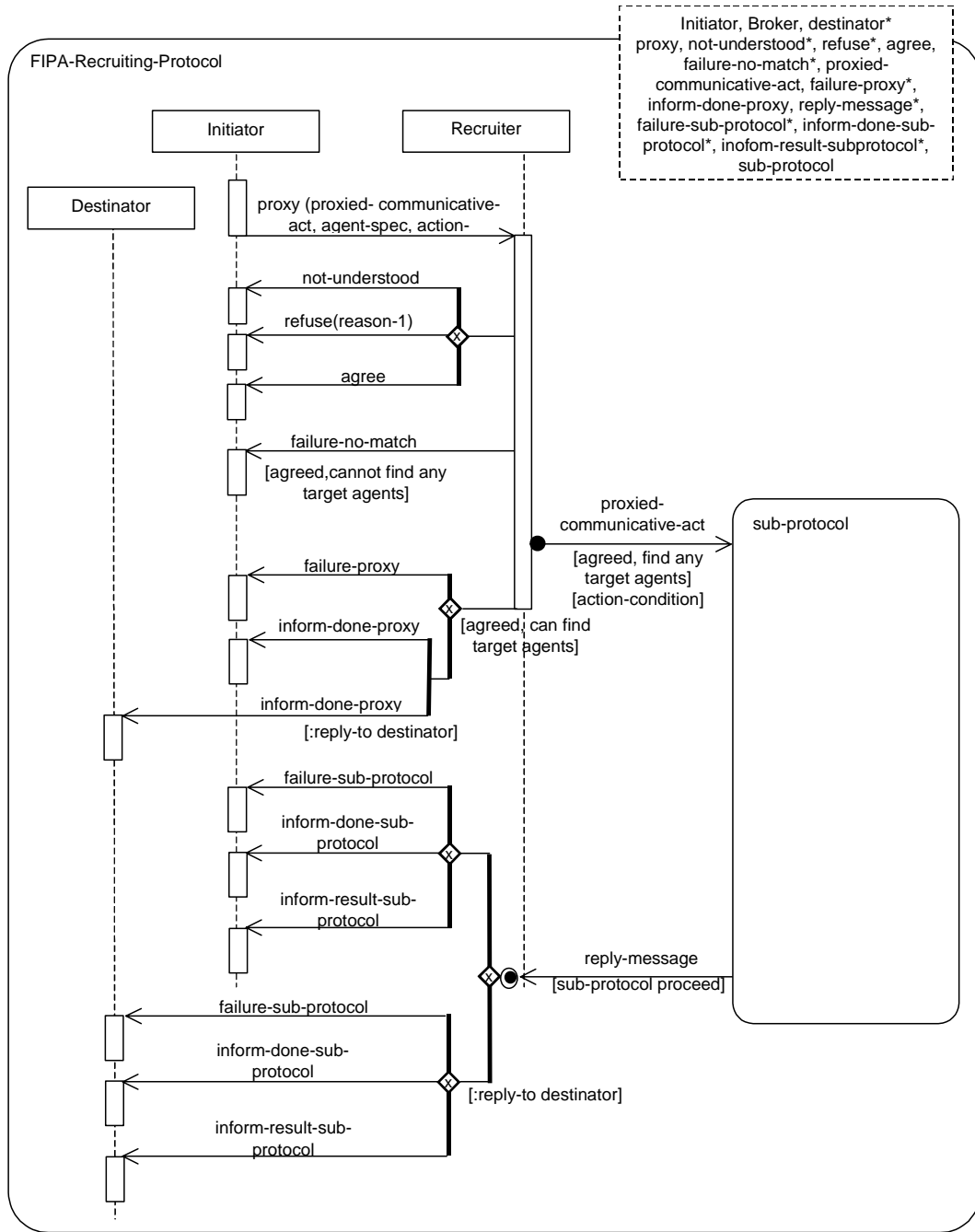


Figure 1: FIPA Recruiting Interaction Protocol

65
66
67
68

69 **1.1 Exceptions to Interaction Protocol Flow**

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

73
74

74 **2 References**

- 75 [Finin97] Finin, T. Labrou, Y. and Mayfield, J., KQML as an Agent Communication Language. In: Software
76 Agents, Bradshaw, J. (editor), MIT Press, 1997.
- 77 [FIPA00037] FIPA Communicative Act Library Specification. Foundation for Intelligent Physical Agents, 2000.
78 <http://www.fipa.org/specs/fipa00037/>