FOUNDATION FOR INTELLIGENT PHYSICAL AGENTS

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Security is both a generic requirement for FIPA agents and a specific requirement for particular application domains. The generic forces for security engineering are different from other types of engineering such as application development. Applications are useful for what they can specifically do. Security products are useful because of what they do not allow to be done. A security strategy in general involves figuring out how to make things not work and then preventing those failures.

Problem Statement: This work plan answers a need expressed by many FIPA members. This work-plan will seek to address some of the generic security requirements for agent applications such as e-commerce and agent support services that:
- operate and interoperate over public networks such as the Internet
- remotely access, provide or broker other services at various service portals

whilst maintaining certain quality of service levels.

Objective: There are two main objectives for this work-plan:
1. To issue Calls for Information on agent Security issued by this work-group on behalf of FIPA, to solicit input from the wider agent and Internet community and to review the responses for inclusion into the output document (see below) on agent security.
2. To produce an informational output document (such as a FIPA positional statement) on security as input to any future FIPA specification on agent security. This will involve:
   - reviewing the previous specification on security (see [FIPA00020]) and making recommendations to the FIPA membership about this document's future.
   - assessing how the use of security impacts the current FIPA ACL and FIPA agent infrastructure specifications. This may entail the specification and or development of an ontology for security;
   - analyzing, developing potential designs and implementations for agent security in specific scenarios such as Agentcities (see [f-wp-00003]).

In addition, this work-plan can also provide input into the work-plans of related TCs, WGs and SIGs such as policies and domains, agreements, Agentcities and PD&M.

Technology: Technology is required to develop designs and implementations to illustrate the benefit of security in an agent scenario (see objectives). Existing security technologies such as Sun's Java security extensions and IP-based network protocols will be re-deployed within an Agent environment to provide support for encryption, authentication and authorization. A call for information will be issued to assess and possibly incorporate technology contributions from responders to this call into the output document.

Functionality: Assess security to:
- control read and write access to core agent services and information
- protect the privacy and integrity of ACL messages
- protect against denial of service attacks.

Specifications generated: None.

Plan for Work and Milestones: The plan is for a 6 month program of work and includes the
following steps:
- 2001/04: Issue 1st Call for Information
- 2001/05: Issue 2nd Call for Information
- 2001/06: First draft of FIPA output document (white-paper) on security
- 2001/07: 22nd FIPA meeting: review 1st draft of security document
- 2002/03: Completion of FIPA output document on security.

The project plan will be reviewed and revised, if and when necessary.

Future Work: Security specification

Dependencies:
- [FIPA00001] FIPA Abstract Architecture Specification
- [FIPA00020] FIPA Agent Security Specification
- [FIPA00023] FIPA Agent Management Specification
- [FIPA00067] FIPA Agent Message Transport Specification

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FIPA Architecture Board response to first version:
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and submitted after the meeting.