# *F*oundation for *I*ntelligent *P*hysical *A*gents

## Resolutions of the Lisbon meeting
## April, 2000.

1. FIPA approves the Secretariat's report of the previous three months concerning
   - Membership (currently 57 members) and status of fee payment,
   - Maintenance, subscription procedure and subscribers of E-mail reflectors

2. FIPA notes the report of the Board of Directors concerning
   - The intent to hold the 18$^{th}$ and 19$^{th}$ meetings in Baltimore, USA and Sydney, Australia, respectively.
   - The revision and approval of FIPA's mission statement to "promote technologies and interoperability specifications that facilitate the end-to-end interworking of intelligent agent systems in modern commercial and industrial settings."
   - The persual of the strategy to focus on the added value of FIPA's contribution.
   - The renewed targeting of applications requiring FIPA's technology.
   - To strengthen FIPA's marketing position.

3. FIPA appoints to the Finance and Audit Committee:

| Name | Affiliation | Country |
|---|---|---|
| Rob Hadingham (Chair) | Nortel Networks | UK |
| Mark Greaves | Boeing | US |
| Takahiro Kawamura | Toshiba | JP |

4. Resolutions of Boards, Technical Committees and Special Interest Groups

**Architecture Board Resolutions**

The Architecture Board proposes that FIPA adopt the following resolutions.
- Approve workplan template and request that the membership use it.
- Reject the initially submitted workplans because of lack of content and lack of direction from the FAB.
- Recognise the receipt of two new workplans on Gateways and ACL Specification Maintenance. The FAB will respond with comments by 2000/04/12.
- Recommend that TC C recomposes the Communicative Act Libraries into one document.
- Approve creation of preliminary documents only by TC chairs via a password system on the Comtec repository, and the official FIPA Web site as soon as possible.
- Approve a new specification front page and header format.

**TC A Resolutions**

TC A proposes that FIPA adopt the following resolutions.
- To recommend that FIPA specification PC00001 be submitted to the Architecture Board for approval as an experimental specification by 2000/05/01.
- To request that the FIPA secretariat establish a new reflector `arch-maintain@fipa.org` to permit FIPA members and others to report comments to and requests for corrections to the abstract architecture specification.
- To submit to the AB a workplan entitled 'Policies and Domains Workplan' for consideration for future FIPA activities by 2000/04/30.
- To hold an interim meeting on May 22/23 in Seattle WA to progress the Policies and Domains activities.
- To request that FIPA issue a request for information - based on the proposed workplan - in the area of policies and policy management and enforcement that would inform FIPA in its efforts to develop abstractions to support policies in multi-agent systems.
- To submit to the AB a workplan entitled 'Abstract Architecture Maintenance Workplan' for consideration by 2000/04/30.
- To thank Jeff Bradshaw, David Levine, Geoff Arnold, Jim Odell, David Evans, Stefan Covaci and Frank McCabe for their participation in this meeting.

**TC B Resolutions**

TC B proposes that FIPA adopt the following resolutions
- Specifications of Agent Management and Message Transport are ready to be proposed for experimental stage after an editorial delay:
    - publication of documents on TC B reflector April 11,
    - feedback until April 18,
    - proposal sent to FAB on April 24,
- TC B fulfilled its mission, and proposes to be dissolved
- Editors for maintenance of documents have been identified
- Workplans proposed by TC B members and dates for submission to the Architecture Board:
    - Agent Configuration Management (J. Dale, B. Burg), 24 April,
    - Security (S. Poslad, M. Calisti), 24 April,
    - Query and inform the AMS and DF (L. Botelho), 24 April
    - Create an information agent for supplying profiles, language syntax and existing ontologies (L. Botelho, B. Burg), 24 April
    - Agent Systems Description ontology (H. Kitajima, F. Bellifemine), 30 April.
- TC B gratefully thanks:
  Fabio Bellifemine, Luis Botelho, Phil Buckle, Bernard Burg, Jonathan Dale, Takahiro Kawamura, Hironobu Kitajima, Kiyoshi Kogure, Stefan Poslad, Yoshiaki Teramoto, and Steven Willmott.
- TC B thanks FAB and other TCs for fruitful exchanges and co-operation as well as to all contributors on TC B reflector, and past TC B members: Satoru Fujita, Ryusuke Matsuoka, Yasuhiro Murasaki, Takeshi Ohtani, Donie O'Sullivan, Akira Sato, Ichiro Shishido, Ronnie Taib.

**TC C Resolutions**

TC C proposes that FIPA adopt the following resolutions:
- TC C has formulated a revised workplan, addressing the maintenance of the ACL specification documents, and submitted it to the FAB. Highlights of this workplan include:
    - Recasting the FIPA 99 ACL specification into a set of independently managed libraries for communicative acts, ACL message parameters, content languages, and interaction protocols.
    - Maintaining these specifications and libraries by accepting and evaluating submissions from FIPA members and others.
    - Interfacing with the rest of the FIPA technical committees on issues of agent communication, and responding to problems and inconsistencies across the entire FIPA ACL specification set.
- TC C has reviewed the FIPA ACL Interaction Protocol documents, and has agreed on the following changes:
    - AUML

- Modifying AUML to delete bidirectional decision elements, and only supporting unidirectional decision elements
- Limitations to the power of the algorithms underlying the AUML control constructs to those that depend only on externally-observable events or conditions
- Linkages to other UML elements, such as collaboration diagrams and agent class diagrams
- Some miscellaneous revisions
- Library administration
  - Submitted protocols must include examples of the protocol in action
  - Submitted protocols must include evidence that the protocol has been successfully implemented (for the protocol to have Standard status)
- Specific protocols
  - TC C discussed the Request-Cancellable interaction protocol (submitted by BT), and will prepare a response outlining some issues.
  - Cancellable versions of the existing protocols will be defined by Bernhard and submitted as Preliminary for the July meeting.
  - TC C will take action on FIPA-Propose and FIPA-Subscribe before the July meeting

TC C expects continued discussion and circulation of drafts to occur before the July meeting, and that the IP library administration document (PC00101) and certain existing IPs will be promoted from Preliminary status to Experimental status by the July FIPA meeting.

- TC C continues to acknowledge the need for a document to introduce the FIPA ACL and the associated semantic framework. TC C currently prioritizes the writing of this document below the production of the communicative act, interaction protocols, content language, and FIPA ACL message parameter libraries.
- TC C has reviewed the FIPA ACL Communicative Act Library, with the following results:
  - TC C discussed several changes to the definition of the **not-understood** communicative act, including clarifying that the semantics of **not-understood** and related CAs do not include a reference to the triggering message or event.
  - TC C noted the need for clarification to the piece of the document that describes what it means for an agent to implement a communicative act.
  - TC C noted the need to go through the individual communicative act definitions in the library and check that the examples show only legal FIPA ACL messages.

TC C expects continued discussion and circulation of drafts to occur before the July meeting, and that the CA library administration document (PC00037) and most of the existing CAs will be promoted from Preliminary status to Experimental status by the July FIPA meeting.

- TC C has reviewed the FIPA ACL Message Element Library, with the following results:
  - TC C approves the incorporation of **performative** as a required element, and approves the deletion of required status from **receiver**, **sender**, and **content**.
  - TC C took no action at this meeting on the proposal of Luis Botelho concerning the addition of new standard message elements, and notes that the continued use of these parameters within a FIPA ACL message is legal.

The members of TC C also made a number of minor changes to this document. We anticipate continued revision of this document over email, with promotion to Experimental status by the July meeting.

- TC C has reviewed the submissions of Fabio Bellifemine and Luis Botelho concerning the FIPA-SL content language (and its derivative dialects), with the following results:
  - TC C approves the addition of the requirement that named parameters start with a colon (":") in the FIPA-SL encoding, and the corresponding changes to the FIPA-SL grammar.
  - TC C approves the addition to SL of two new object reference operators: **any** and **all**. The TC also approves a change to the semantics of **iota** to make clear that **iota** returns the unique object satisfying the associated expression. The TC also notes that this change will require changes in the semantic models of several communicative acts.
  - TC C approves the addition of a standard set of operators for common functions, such as greater-than, less-than, union, and so forth.
  - TC C approves a set of miscellaneous fixes to various parts of the SL specification, including the use of **ACLCommunicativeAct** as a terminal in the FIPA-SL grammar, and the modification of the first argument for **iota**, **any**, and **all** to be an **SLTerm**.
  - TC C disapproves the specific proposal for representing uncertainty in FIPA-SL. However, the TC recognizes that language support for uncertainty is important to many applications of FIPA-SL, and encourages further submissions in this area.

- - TC C has coordinated with TC B on the treatment of slots, and on this basis agrees that the proposed `slot` keyword is not necessary.
  - TC C took no action at this meeting on the proposal for the addition of pattern-matching variables to FIPA-SL.

  Details of these descriptions can be found in the appropriate content language definition documents. Because these changes entail modifications to previously compliant FIPA-SL parsers, Fabio and Luis will collect feedback on any objections to these changes. TC C will take official action on the promotion of the FIPA-SL content language specification documents at or before the July meeting.
- TC C requests that the FIPA Board consider adding a section to each FIPA document listing the contributors to each document.
- TC C encourages the FIPA membership to formulate a workplan addressing issues in ontology specification frameworks and ontology management, including
  - Maintenance of the FIPA 98 Part 12 Ontology Service
  - Creation of a library of ontology frameworks, including OKBC
  - Possibly also including a library of specific application ontologies
- TC C encourages the FIPA membership to formulate workplans (including calls for proposals) addressing new directions for FIPA's agent communication framework, including
  - Non-BDI semantics for agent communication
  - Frameworks for verifiable interaction protocol specification
  - A definition framework for supporting policy-based interaction, including specification communication-relevant policies, such as security policies, conversation management policies, termination policies, and so forth
  - Language support for representing and reasoning about uncertainty
- TC C thanks Bernhard Bauer and Jim Odell for their work in submitting the AUML specification to the OMG Analysis and Design Task Force.
- TC C gratefully acknowledges the work of Bernhard Bauer, Fabio Bellifemine, Luis Botelho, Tierry Bouron, Monique Calisti, Jim Cunningham, Tim Finin, Mark Greaves, Hiroki Iciki, Kiyoshi Kogure, Yannis Labrou, Abe Mamdani, Jim Odell, Makoto Okada, Jeremy Pitt, Donald Steiner and Tianning Zhang.

## TC E resolutions

TC E proposes that FIPA adopt the following resolutions:
- TC E accepts the following workplans:
  - TC E's workplan and
  - the 'Gateway' workplan (issued by BT, EPFL, Nokia, Siemens, Sonera, and UH).
- The binding times for the publication of the Preliminary versions of the component and profile documents are the following:
  The current target date is 15th of May, 2000.
- The binding times for the publication of the Experimental versions are the following:
  The current target date is 21st of July, 2000 (at the end of Baltimore meeting).
- Future work
  TC E will carry out the work related to the 'gateway' workplan until FIPA Board nominates a TC to carry on the work. TC E will issue the Call For Technology related to this workplan.
- TC E gives special thanks to Heikki Helin, Michael Berger, Stefano Campadello, John Shepherdson, and Markku Tamski.
- TC E thanks all other TCs and FAB for good co-operation and fruitful information and knowledge exchange.

## Liaison SIG resolutions

The Liaison SIG proposes that FIPA adopt the following resolutions:
- **Marketing:** FIPA thanks the editor, Rob Hadingham, and all contributors to the excellent first edition of the FIPA inform! newsletter and encourages wide distribution of the newsletter.
  Rob Hadingham will continue to produce the next edition of the FIPA newsletter.
  FIPA adopts the marketing workplan proposed by David Evans. He will also draft a white paper on FIPA for Dummies, and Bernard Burg, David Evans, and Jonathan Dale will revise the FIPA Website. Needs are:
  - Make a marketing page, including open source, projects …
  - Incorporation of Comtec's website into the official FIPA website

This work will start after this meeting; a first draft will be submitted to the Board before next meeting.

- **AgentCities,** Steven Willmott presented the concept, which was positively welcomed, 8 FIPA members representing different companies in Europe, Asia and the USA showed strong interest and intend to participate. It was felt it should be some FIPA activity to help co-ordinate the project. A workplan is under development and should be proposed to the FAB before the next meeting.
- FIPA notes that a **Java Community Process (JCP)** on a Java reification of the FIPA abstract architecture will be proposed under the leadership of Fujitsu. All FIPA members are invited to join.
- **OMG**, The Agent Group focuses its efforts on education and information on Agent Technology.
- **Holonic Manufacturing Systems** (HMS) is a worldwide consortium, with about 50 member organisations. Fabio Bellifemine gave a presentation of FIPA.  HMS are interested in liaison with the FIPA product design & manufacturing SIG and in particular the use of FIPA interaction protocols. FIPA will contact them and follow-up.
- **MPEG21** is a follow-up to MPEG7. Objective: put together a chain from content creator to consumer, including agents. Ballots will be submitted at the end of this month. If approved, MPEG will produce a tech report end 2000, and international specs at end 2001. A CFP will be issued, and FIPA members are encouraged to respond.
- **Other business**
  - Fujitsu intends to announce an APRIL programming competition. Precise details will be available soon.
  - The potential for collaboration with W3C should be discussed at the next FIPA meeting.
  - Open source news
    - Nortel Networks: Next version of FIPA-OS available next week. Installation somewhat simpler than before.
    - Fujitsu: APRIL, DIALOG, APRILWEBS have been turned into open source projects, available on Source Forge.

5. FIPA reiterates its Call for Workplans in full expectation that it will receive valuable contributions.

6. FIPA welcomes the list of FIPA-related software developed by members and non-members.

7. FIPA welcomes the description of FIPA field trials being conducted or planned by members, non-members and consortia.

8. FIPA thanks the following individuals for their excellent entries to the FIPA competition:

| Nr | Title | Name | Organisation (Consortium) |
|---|---|---|---|
| 1 | New-generation TV entertainment system | Fabio Bellifemine | CSELT (FACTS-A1) |
| 2 | FATe – FIPA AgentTemplates | Frank Noe | Institut fuer neue Medien |
| 3 | Agent Mobility in FIPA-OS | Milla Makelainen | Nottingham Trent University |
| 4 | Dynamic and Competitive Service Provisioning | Phil Buckle | Nortel Networks & Alcatel (FACTS) |
| 5 | Personalised eCommerce Service | Jeremy Pitt, Phil Buckle | Imperial College & Nortel Networks (MAPPA) |
| 6 | MONITORix, a video based traffic surveillance multi-agent system | Prof. Maria Jose Trigueiros, Prof. Luis Botelho | ADETTI (MODEST) |
| 7 | Cybs: The Intelligent Agents Community Platform based on FIPA Communication Technology | Tianning Zhang, Stefan Covaci | PopNet AgentScape AG |

FIPA congratulates the winners of the competition:

| Placing | Title | Name | Organisation (Consortium) | Score |
|---|---|---|---|---|

| 1 | New-generation TV entertainment system | Fabio Bellifemine | CSELT (FACTS-A1) | 7.9 |
|---|---|---|---|---|
| 2 | Dynamic and Competitive Service Provisioning | Phil Buckle | Nortel Networks & Alcatel (FACTS) | 7.2 |
| 3 | Cybs: The Intelligent Agents Community Platform based on FIPA Communication Technology | Tianning Zhang, Stefan Covaci | PopNet AgentScape AG | 6.9 |

FIPA welcomes comments on the competition process and whether a similar competition should be held next year.
FIPA invites companies and organizations to make demonstrations of agent-based products and applications at the next FIPA meeting in Baltimore.

9. FIPA thanks ADETTI and the MODEST ACTS project for offering FIPA excellent meeting facilities and friendly support in Lisbon and for hosting its 17th meeting, in particular: Prof. Maria Jose Trigueiros, Ana Rita Leitao, Fatima Estevens, Paula Neves, Ana Cristina Gomes, Ricardo Gomes, Antonio Lopes and the Tuna Academica do ISCTE.

10. FIPA invites its membership and contributors to the FIPA process to its 18th meeting, July 17-21 in Baltimore, Maryland, USA to be hosted by the University of Maryland, Baltimore County.