Short Position Statement:
Suggestions for an Argument Interchange Format

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Abstract. In this short statement, I discuss the aspects of argument that we may wish the Argument Interchange Format (AIF) to capture. I also discuss some of the criteria it may have to fulfil.

What will the AIF capture?

Following are some of the things we may wish to describe in an AIF:

- **Arguments:** Most importantly, we need a way to describe arguments.
- **Relationships among arguments:** We would also need means for defining various types of relationships among arguments (e.g. attack, defeat, defence etc.). Such relationships may either be described syntactically, or we may want the AIF to be rich enough to be able to describe the semantics of these relationships.
- **Argumentation theory:** One may also wish to capture, in a machine understandable way, the argumentation theory that defines the status of arguments. For example, an agent may wish to communicate to another agent, via the AIF, that it follows a *preferred-extension semantics* or a *credulous semantics* to identify acceptable arguments.
- **Argumentation Protocol:** An agent may want to capture the specifications of the protocol it wishes to converse with and communicate it to others via the AIF. An example of such specification language is the lightweight coordination calculus [Robertson 2004].
- **Agent attitudes:** Agent acceptability attitudes [Prasons et al 2003] are more specialised than the argumentation theory level. On one hand, the argumentation theory may specify, for example, what an attacked or defended argument is. On the other hand, given a particular argumentation theory and an argumentation protocol, the agent-specific acceptability attitude defines the way in which the agent will use the protocol. Parsons et al defined various *assertion attitudes* (e.g. confident, careful, thoughtful) and *acceptability attitudes* (e.g. credulous, cautious, sceptical). We may want to enable agents to communicate their attitudes via the AIF.

What requirements will the AIF need to fulfil?

I believe an AIF must satisfy the following requirements:

- **Minimality:** The AIF must be simple and minimal. It should not have any mandatory restrictions on syntax or semantics that conflict with any particular existing argumentation framework.
- **Extensibility:** At the same time, the AIF must be extensible, in the sense that it can be easily specialised to capture any specific argumentation framework. More precisely, one must be able to define new types of relationships among arguments, their own argumentation protocols etc.
- **Content Neutrality:** The AIF must enable any content language (e.g. KIF, KQML etc.) to be used to describe the contents of arguments.

References

[Prasons et al 2003] Parsons, S., Wooldridge, M., and Amgoud, L. Properties and complexity of formal inter-agent dialogues. Journal of Logic and Computation, 13(3), 347-376, 2003.

[Robertson 2004] D. Robertson. A Lightweight Coordination Calculus for Agent Social Norms. In Proceedings of the Autonomous Agents and Multiagent Systems Workshop on Declarative Agent Languages and Technologies, New York, 2004.