

FIPA Architectural Challenges

Meshing with the
Web

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Evolving Landscape

- Web Services are rapidly becoming the new lingua franca for interoperation
- Second and third generation infrastructures
 - XML derived encodings
 - HTTP derived transports (SOAP, etc.)
 - Higher level abstractions than strings and sockets
- Evolutionary pressures adding agent like functions to these environments
- Must engage with the web **and** differentiate

FIPAs value must evolve

- Plumbing adds minimal value, sometimes lowers value
- Semantics, Ontology, Interaction Protocols, Contracts, Policies are areas where FIPA can provide high value
- Move rapidly to focus on the high value stuff
- Recognize that this space is getting crowded
- Use **agency** as key differentiation

Converge on single standard

- This is vital, to focus activity
- Not terribly hard
- Requires some compromises
- Permit full interoperability
- We need to do most of this anyway
 - Wireless work is driving some of it
 - Small devices drive other parts
 - Good software practices

Needed to converge

- Full separation of transport, encoding
- Service Profiles
- Define AMS, ACC, DF, DS as pluggable
- Simple rules for federating systems
- No need to break existing stuff
- Some changes for agents to fully exploit
- Enabling approach, rather than tolerance

Single Set of Conformance Tests

- Building conformance suits is a key goal for FIPA
- This is non-trivial, and we need to do a good job.
- Let's do it once, not multiple times
- Again, convergence is key here
- Federation, gateways and configuration get driven here

The Protocol / AI cliffscapes

Human level
Natural Speech

The sweet spot:
Enough Power
Managable Complexity

Pure FSM style Protocols

A blue line graph illustrating the relationship between protocol complexity and AI performance. The curve starts at a high point on the left labeled 'Human level Natural Speech'. It then descends to a local minimum labeled 'The sweet spot: Enough Power Managable Complexity'. Finally, it drops sharply to a low point on the right labeled 'Pure FSM style Protocols'.

Agency as key value

- Agency means more than semantic encoding
- Active rather than passive posture
- Patterns of interaction, protocol *like* but more flexible
- Finding the sweet spot in the landscape
- This is where we can ***lead*** rather than follow

Conclusion

- The world has moved beyond strings and low level protocols
- We must align all our work to be effective
- Convergence isn't technically hard, but it is strategically vital
- Do conformance once, and well
- Focus on moving up the conceptual hierarchy
- Agency is what we do best, focus there