

Mobile Agent Comparison

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About APM document #1989

- Agents
 - background
- Agent features
 - the different technologies
- Comparison
 - the technologies compared
- Conclusion
 - Which is best for FollowMe?
- References



Scope of the document

- Keeps to FollowMe needs: agents -
 - in Java
 - autonomous
 - mobile
- OMG Mobile Agent Facility RFP3
 - relevant
 - “Agents are small to medium grained objects, they can move, and they can start or stop their execution autonomously”



Specific technologies

<i>Technology</i>	<i>Supplier</i>	<i>Status</i>
Aglets	IBM	Late alpha
CHAOS	Fujitsu	Internal beta
Voyager	Object Space	Beta
Odyssey	General Magic	Beta 2 (recent)

- Java
- Not just research projects
 - public domain
 - good chance of commercial availability
- Access to system resources, databases, etc.



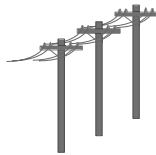
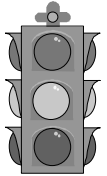
OMG Mobile Agent Facility RFP3


- At submission stage
 - Resubmission to be presented at Montreal meeting (June 23-27, 1997)
 - Crystaliz, General Magic, IBM and GMD Fokus
- Likely to become important
 - transport and interoperability
 - all teams development teams aware
 - none of the systems yet close to “compliance”



FollowMe specifics

- security
- Java support
- movement of data
- directory services
- communications
- public availability
- ... ORB support



- ➔ protecting data 
- ➔ open, cross-platform
- ➔ for usability!
- ➔ for tracking
- ➔ talking to other objects
- ➔ for viability
- ➔ for legacy



Aglets

- ☹ security only partly modifiable
- ☹ in Java, not all source available
- ☹ no directory service
- 😊 messaging good
- ☹ commercial licensing a problem
- 😊 easy to use
- ☹ not easily extensible
- ☹ dealt a recent blow by Danny B. Lange's defection



CHAOS - information incomplete

- ☺ security model very flexible
- ☺ in Java, full source available
- ☺ directory service should be modifiable
- ☺ messaging good
- ☹ licensing currently uncertain
- ☹ low-level, little documentation
- ☺ very extensible
- ☺ HORB support



Voyager

- ☹ security currently poor
- ☹ in Java, source not available
- ☹ no directory service
- ☺ messaging good
- ☺ commercial licensing open
- ☺ documentation very good
- ☹ not very extensible
- ☹ architecture seems weak



Odyssey

- ☺ security good
- ☹ source available (may change with new beta)
- ☹ no directory service
- ☹ messaging lacks asynchronicity
- ☺ commercial licensing open
- ☹ documentation poor (improving)
- ☺ very extensible
- ☺ IIOP and Visibroker supported in new beta



The choice

- Security
 - ✓ CHAOS, Odyssey
- ORB support
 - ✓ CHAOS, Odyssey
- Availability
 - ✓ Odyssey, Voyager
- Users
 - ✓ Odyssey, Voyager, Aglets
- Licensing
 - ✓ Odyssey, Voyager, ?CHAOS

The bottom line: CHAOS or Odyssey

