

MOBILE AGENT BASED FOREIGN EXCHANGE (ForEx) SYSTEM

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Abstract

Security has been one of the major concern in mobile agent systems and perhaps the main reason hindering their wide spread adoption. The game of breaking and fixing protocols is a necessary evolutionary process that leads to a better understanding of the underlying problems and ultimately to more robust and secure systems. A legitimate host could be abused by malicious hosts as an oracle that decrypts, signs, or otherwise computes protocol data on behalf of an adversary [4]. Hence, agent servers and agent owners must have means to decide whether protocol data that an agent requests to process or returns, actually belongs to that agent. The security model of most of the systems borrows techniques from the security model provided by the Java language. This model supports security policies consisting of permissions to system resources and privileges granted to the users of the system. Although this model is sufficient for protecting agent servers from malicious mobile agents it is inadequate for protecting mobile agents from malicious agent servers. The later problem has been addressed in techniques such as cryptography that obfuscates the mobile code so that the remote site is unable to decrypt it. There are global tracking service for mobile agents, which is scalable to the Internet and accounts for security issues as well as the particularities of mobile agents (frequent changes in locations)[3]. The protocols it propose address agent impersonation, malicious location updates, as well as security issues that arise from profiling location servers, and threaten the privacy of agent owners. The problems addressed are:

- Tracking service updates and lookups must be fast. Since mobile agents can migrate at any time a huge rate of updates must be expected.

- The load must be distributed between a sufficient numbers of tracking servers.
- A suitable unambiguous mapping between agents and tracking servers must be established.
- The number of tracking servers must be gradually scalable to increasing demand.

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