1035-94-770   **Biswajit Panja*** (`b.panja@morehead-st.edu`), 201F Lappin, Morehead State University, 150 Univ Blvd, Morehead, KY 40351. *Key Management in Mobile Peer-to-Peer Networks using Cryptography.*

Peer-to-Peer computing is a way to share computer resources and services. The resources could be files, processing cycles, cache storage, and disk storage. In peer-to-peer environment the hosts and the clients could be desktop computers or mobile nodes. We have investigated different architecture of P2P for desktop computer and mobile nodes. We analyzed the security requirements in both wired and wireless networks with respect to the environment constraints. In this paper, key management model for mobile P2P networks is proposed. In this scheme the mobile peers are divided into different groups and different regions. One of the peers is chosen as super peer who is responsible of security of a particular group. The super peer is chosen based on memory, disk storage, up time and bandwidth. The localized search is used for queries of general peers. If a query does not return result then it is routed to the other groups. The group key is computed by the super peer by using the partial keys of general peers. We have implemented the approach in NS2. First the delivery time of partial keys is measured in wired P2P network. Then the wireless network is setup for doing the same with mobility to a particular direction and with random motion. (Received September 15, 2007)