

**IEEE P802.11**  
**Wireless Access Method and Physical Layer Specifications**

**Title:**           **IETF Mobile Networking**

**Authors:**       Charles E. Perkins (IETF Member)  
                  Room J1-J25  
                  IBM T. J. Watson Research Center  
                  30 Saw Mill River Rd.  
                  Hawthorne N.Y. 10532  
                  Tel: (914)-784-7350  
                  Fax: (914)-784-7007  
                  E-mail: perk@watson.ibm.com

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**Introduction**

This submission contains the presentation from C. Perkins (IBM / IETF) at the 802.11 September 1993 meeting. This presentation is related to 802.11 Issue 16.9.

## **IETF mobile networking**

### **Overview**

- \* Goal
- \* What are the problems?
- \* TCP/IP
- \* Mobile Networking definitions
- \* Solutions submitted to the IETF
- \* Recent progress towards convergence

### **Goal**

- \* Connection to computing resources
- \* Connection to other user's computers
- \* "Seamless" networking
- \* No user intervention
- \* Minimal additional cost
- \* Low network utilization
- \* Low system impact
- \* No change to application programs
- \* Hard Requirements:
  - Continuous access (multiple networks)
  - Backwards compatibility
  - Weak Security (?)

### **What are the problems?**

- \* network ==? extent of wire
- \* network address ==? location
- \* Tracking mobile computers
- \* Network Addresses can't change
- \* Disseminating location data
- \* Compatibility!
- \* Finding optimal paths

### **TCP/IP**

- \* IP is "Internet Protocol"
- \* IP "internetworks" separate LAN segments
- \* IP only offers connectionless ("best-effort") delivery
- \* TCP presents to applications a reliable dat stream
  - Only need to fix IP
- \* Offers worldwide connectivity
- \* Growing very rapidly
- \* Connotes a set of protocols
  - SMTP, NFS, SNMP, RIP, FTP, TELNET

**Mobile Networking definitions**

- \* Mobile Host
- \* Home Subnet
- \* Home Agents
- \* Foreign Agents
- \* Care-of Address
- \* Correspondent Host
- \* Triangle Routing
- \* Weak Security

**Previous Proposals**

- \* IBM Loose Source Routing
- \* Sony
- \* Carlberg's Host Route
- \* Columbia (JI) MSSs
- \* Matsushita
- \* IBM Readdressing
- \* CMU MHRP
- \* Myles/Perkins MIP
- \* SMIP (CDPD-like)

**Layer 2 interface**

- \* Cell association events
- \* Carrier detect
- \* Base station MAC address

**Summary**

- \* mobility solved at Layer 3
- \* TCP/IP solution can adapt to other protocols
- \* OS and machine independent
- \* Framework for mobility is designed
- \* Applications work without change
- \* A working group proposal may emerge this year
  - A draft proposal likely in a month

