

The Best Hacker Team



Wowhacker

Wireless LAN IEEE 802.11

¹

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P.S.:

가 “ ” 가 “ ” 가

1.

pager(), ,
가 , IEEE
802.11 가

¹ <http://www.computer.org/students/looking/summer97/ieee802.htm?SMSESSION=NO>

2. 가

1970 Xerox Palo Alto Research Center Ethernet ²
LAN(local area network)
(
가 .)
Ethernet LAN
가 .
,
(collaborative, distributed computing)
LAN
(infrastructure) .
(node) .
, , ,
가 가 ³ .
가 (mobility) .
,
LAN .
가
vital sign
가
가 ,

² R.M. Metcalfe and D.R. Boggs, "Ethernet: Distributed Packet Switching for Local Computer Networks," Communications of the Association for Computing Machinery, Vol. 19, pp. 395-404, July 1976 .

<http://www.acm.org/classics/apr96/> .
<http://paul.rutgers.edu/cs545/S02/presentations/Ethernet.ppt> .

³ L. Goldberg, "Wireless LANs: Mobile Computing's Second Wave," Electronic Design, 26 June 1995 .

가 , .

node 가

가

(SEA, spokesman election algorithm)⁹ slave

base station(master) “ ”

ad-hoc 가

broadcast flooding .

infrastructure .

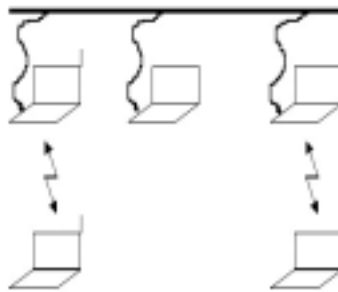


Figure 2: Infrastructure Network

(access point)

(wired node)

가 (landline) 가

handoff 가 cell

(cellular network) .

5. IEEE 802.11 Layer

IEEE 802.11 (PHY) (MAC, medium access

⁹ K. Chen, "Medium Access Control of Wireless LANs for Mobile Computing," IEEE Network, September / October 1994.

control) (layer) .

PHY direct sequence spread spectrum¹⁰, frequency-hopping spread spectrum¹¹ infrared (IR) pulse position modulation¹² . IEEE 802.11 1 Mbps 2 Mbps , 2.4 - 2.4835 GHz frequency band (spread -spectrum transmission) , , (ISM) 가 band , IR transmission 300 - 428,000 GHz band . Infrared IR transmission line-of-sight (가) , 가 (radio frequency transmission) . (infrared transmission) ¹³ , 802.11 spread-spectrum 가 .

MAC layer (shared medium) . 802.11 (CSMA/CA) 가 carrier sense multiple access . , 가 가 listen . 가 “ backoff factor” ¹⁴ backoff .(backoff .) backoff 가 0 . 가 backoff factor . Ethernet . IEEE 802.11 가

¹⁰ http://www.maxim-ic.com/appnotes.cfm/appnote_number/1890

¹¹ <http://www.alvarion.com/RunTime/Materials/PDFFiles/FHvsDS-ver7.pdf>

¹² http://www.ucop.edu/research/micro/96_97/96_001.pdf

¹³ T.S. Rappaport, private communication, June 1997.

¹⁴ <http://www.statslab.cam.ac.uk/~frank/PAPERS/nptcdras.html>

가 RTS

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$A \rightarrow B$, $B \rightarrow C$
 $A \rightarrow C$.
 $C \rightarrow B$.
 $B \rightarrow A$.

¹⁵ http://www2.rad.com/networks/1994/err_con/crc.htm

6.

IEEE 802.11 IEEE 가 .
802.11 ,
가 . , Virginia Tech 802.11 가
가 . B.E. Mullins
“ A Wireless Local Area Network Protocol That Improves Throughput Via Adaptive
Control” ¹⁶ ¹⁷ .

¹⁶ B.E. Mullins, N.J. Davis IV, and S.F. Midkiff, "A Wireless Local Area Network Protocol That Improves Throughput Via Adaptive Control," Proceedings of the IEEE International Conference on Communications, pp. 1427-1431, June 1997.

¹⁷ B.E. Mullins, N.J. Davis IV, and S.F. Midkiff, "An Adaptive Wireless Local Area Network Protocol That Improves Throughput Via Adaptive Control of Direct Sequence Spread Spectrum Parameters, to appear in ACM Mobile Computing and Communication Review, Vol. 1, No. 3, 1997.