

**IEEE 802.11**

802 LAN Access Method for Wireless Physical Media

**Mapping ISA S50.03 & S50.04 Data Link onto  
802.11 MAC Requirements & Terminology**

November 1993

Robert S Crowder

SHIP STAR Associates, Inc.

36 Woodhill Dr, Suite 19

Newark, DE, 19711 USA

Voice: 1 (302) 738-7782, FAX: 1 (302) 738-0855, EMAIL: 289-2306 @mci.com

ISA S50.02 Part 3, some Annexes to S50.02 Part 4, and a letter of August 23, 1993 granting limited distribution rights to 802.11 members, were received by the Chair of 802.11 on August 25, 1993 via Federal Express. This was in advance of the August 26th mailing deadline. The Chair refused to distribute the ISA documents. Tom Phinney has since volunteered to provide copies of the ISA documents at this meeting. 93/184 would also have been submitted at the September meeting if the ISA documents were distributed then.

The above documents are a much more complete description of the BPF protocol than 93/50. Because of the Chair's refusal to distribute the ISA documents, the actions of the MAC Group in limiting foundation protocols was taken without information on the BPF protocol that was submitted for distribution to members of 802.11.

It seems advisable to consider adding the BPF MAC to the list of foundation protocols after the MAC Group has an opportunity to study 93/184 and the ISA documents.

Category	802.11 Entities & Requirements	SP50 Entities & Capabilities	Congruence of Mapping	Comments
Topo-logy	Basic Service Area (BSA)	Local Link - Most on link traffic uses a 2 octet address - Usually < 240 nodes / Link/BSA, can be extended in groups of 240	direct in one interpretation of 802.11 requirements	SP50 assumes that one media interface (antenna) resides on exactly one Local Link. This can be assured in 802.11 by an Inter PCF protocol that assigns an antenna that can hear multiple PCFs to exactly one of them at any time - this is the Roaming protocol
	Extended Service Area (ESA)	Extended Link - Always uses a 4 octet address - < 16,000 Links/BSA per ESA	direct if we assume that inter BSA traffic always travels M-> AP-> AP-> M	

Node Types	Point Coordination Function (PCF)	Link Active Scheduler (LAS)	direct	
	Distributed Coordination Function (DCF)	several Link Masters (LM) -one is elected to act as LAS until a "better qualified" LAS appears	direct in one interpretation of 802.11 requirements	the LAS may have a very stupid scheduling algorithm - perhaps round robin among participants A Infrastructure Connected CF is better qualified PCF/LAS than a mobile node
	Mobile (M) in a system with (infrastructure &) PCFs	Basic node	not yet agreed in 802.11	
	Time Scheduling Access Point (AP)	Link Master - will be the LAS if it is the only LM in the BAS	not yet agreed in 802.11	
	Intra ESA forwarding function of APs	SP50 Bridge	direct	
	Portal	SP50 Bridge integrated with 802.1 Local Bridge	direct	
Data Transfer Classes	Connectionless in Context free MACs, e.g. CSMA	Connectionless	802.11 is a proper subset	
	Connectionless in MACs that maintain Context - e.g. a time slotted MAC	Connections	802.11 is a proper subset	
	Time Based Services	Connection Oriented with Time Scheduling	802.11 is a proper subset	
Management Services	Exchange & Coordination of MAC & PHY characteristics, e.g. FH pattern	DL & PHY Management	direct	