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Enhancements to the IEEE 802.11 MAC Layer

Al Petrick
Harris Semiconductor
407-729-4944
apetrick@harris.com

Submission

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Current Situation

- The 802.11 working group is approaching closure on the a 2.4GHz 802.11HR - PHY extension, And a new 5GHz PHY standard.
- The proposed PHY drafts support data rates applicable for application payloads beyond data file transfers.
 - Possible payloads.....packetized voice, multimedia, and Isochronous, VoIP traffic

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Current Situation....cont

- 802.11 MAC layer supports an optional mechanism which has basic foundation support these types of application payloads....PCF - Point Coordination Function.

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PCF and Security Enhancements

- What metrics are missing in the MAC layer's PCF mechanism for supporting such applications?
 - Quality of Service - QoS
 - Class of Service - CoS
- Enhanced Security mechanisms for supporting longer security KEYS
 - Key management...key negotiation & distribution
- Investigate enhancements to the authentication process.
- Others?

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Other Competing Standards and SIGs

- ATM
 - Offers robust QoS and CoS metrics
- IETF - Internet Engineering Task Force
 - Focused on the IP world and currently defining QoS metrics and strategies for VoIP, integrated and differentiated services

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Other Competing Standards and SIGs

- Bluetooth
 - Protocol supports 2 types of Links
 - Synchronous Connection Oriented (Voice traffic) and Asynchronous
 - Offering QoS and CoS for voice and data
 - IEEE 802.15 entertaining papers comparing 802.11 vs Bluetooth networks supporting such services
- HomeRF
 - Protocol similar to the CSMA/CA 802.11 and support both a voice/Isochronous traffic

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Recommended Actions

- Encourage support from 802.11 MAC members
- IEEE 802.11 reflector to spawn interest
- Kick off study group at the next interim meeting in September 1999
- Work towards a completing a PAR by January 1999

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Motion

- 802.11 plenary adopt the recommended actions as stated in on page 7 of doc 99/161.

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