

PAT 623 | ASYNCRHONOUS CONTENTION RESOLUTION DIVERSITY ALOHA



CONTEXT

Many variants exist on the basic ALOHA broadcasting protocol which transmits data packets at random intervals until acknowledgement of reception has been received. Most variants require strict synchronization by all participants so that time slots for packet transmissions do not overlap, or use spread spectrum broadcasts to create transmission redundancy.

The technology offered here improves the efficiency of a communication link by relaxing synchronization and avoiding spread spectrum techniques.

APPLICATIONS

The proposed communication protocol and system are specifically suitable for radio communication but can also have applications in computer network environments, examples include:

MOBILE COMMUNICATIONS

M2M/IOT

TRAFFIC FLOW MONITORING

SEARCH AND RESCUE SERVICES

ENVIRONMENT MONITORING

TECHNOLOGY SUMMARY

This invention relates to a communication protocol for transmitting data packets in an asynchronous manner and where each packet is transmitted in a known amount (two or more) of time slots.

BENEFITS

MORE CAPACITY: Channel occupation is reduced, so more users can be handled within the same limits of the communication channel.

SIMPLER: Time synchronization between simultaneous users of the channel is not necessary, which greatly simplifies the overall communication layout and reduces hardware cost.

LESS COST: Because of the various simplifications, the cost of hardware involved with the communication can be reduced in comparison to earlier generation protocols.

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IP STATUS

This invention is currently protected by a patent but not national phases have been enforced yet.

TECHNOLOGY READINESS LEVEL AND TIME TO MARKET

The software and analytical simulations under relevant environment have been completed. The remaining development for the final product may be finished in less than 1 year.

ORGANIZATION PROFILE

European intergovernmental organization with patents in many sectors, especially in telecommunications, new materials and structures.



BUSINESS OPPORTUNITY

Technology transfer via IP licensing/ patent transference.

Product co-development agreement.

KEYWORDS

ALOHA

MULTIPLE USERS

ASYNCRHONOUS COMMUNICATIONS

SPREAD-SPECTRUM

PACKET COLLISION

CONTACT INFORMATION

ELISENDA CASANELLES

COMERCIALISATION RESPONSIBLE

ecasanelles@kaalliance.com

+34 93 266 71 38