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ALOHA Protocol

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Abstract: *The throughput of a 2-D optical code-division multiple-access (OCDMA)/unslotted ALOHA (U-ALOHA)/channel load sensing protocol network using an optical hard limiter and channel code was examined. This approach presupposed a constant message length and a single user class. However, multimedia traffic with variable frequency is the current and future focus of networks. message length and the distinction between real-time and non-real-time user classes. In this essay, we propose a 2-D OCDMA/U-ALOHA network with access control and two classes of variable users. message size We consider the number of fixed-length packets in a message to be geometrically distributed and carry out access control by allocating two user classes with various access probabilities of obtaining permission. The numerical results demonstrate the high priority user class, such as real-time data traffic) can sustain maximum. A possible alternative to local area networks (LANs) and broadband optical access networks for greater capacity in response to the rapidly increasing volume of multimedia data traffic, the suggested network protocol has the potential to achieve 100 Gbps. The scalability and stability of Lora networks have faced additional hurdles as a result of the exponential development of IoT devices. The Lora network's collision issue is major one right now. This is due to the fact that LoRa WAN's MAC layer protocol is mostly based on the Pure ALOHA is too-simple a mechanism to handle collisions. The flexible frame spacing The pure ALOHA algorithm is where ALOHA is optimised, and it can successfully minimise collisions.*

Keywords: ALOHA algorithm

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