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Distributed Event System

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The use of distributed systems always requires a minimum amount of parallelism. More precisely, there is almost always a need for multiple instances to work on a common data set. This is the case, for example, for cloud storage services with offline caching and synchronisation capabilities.

In the context of this project, concepts for implementing a distributed event system were evaluated which resulted in a demonstrator that combines publish-subscribe elements with approaches from the blockchain. Basic prerequisites for such systems are the creation of a common network time (or a unique logical sequence of events). Replay possibilities, rollback capabilities and automatic conflict resolution were top priorities while developing the demonstrator. In addition, special attention was paid to performance aspects and network load in order to design the most efficient system possible, while remaining application-independent.