

Television broadcast +Blockchain Ultra-reliable service

Combining the wide coverage and reliability of broadcast waves (IPDC) with the tamper resistance of blockchain and secure authentication technology, achieving high reliability verification!

By broadcasting block header information, which is used for verification among the distributed network of blockchains, via IPDC over broadcast waves, high-reliability public authentication can be achieved even in areas with difficult internet communication, such as during disasters.

Implementing a scheme capable of verifying ultra-reliability

The verification process

Public information distribution via television broadcast waves.

The information serving as the basis for authentication is distributed via highly reliable broadcast waves. Digital data is overlaid onto broadcast waves in IP packet format (IPDC) using IPDC for simultaneous broadcast.

Broadcast station
IPDC

Blockchain

Offline

Certificate issuing office

Certificate issuance

Registering information on the blockchain

Issuer reception

Broadcasting block headers via television waves.

Continuous broadcasting

Trust verification

Matching header information with certificates

Reception in disaster-stricken areas

In the event of a disaster, assume that the affected area is offline.

Offline

Evacuation shelter
IPDC Receiver

Offline

Evacuation shelter
IPDC Receiver

Achieving reliability through blockchain.

Smart contracts offer secure, flexible authentication, enabling conditional certificate issuance, including key exchanges during disasters or payment-based issuance.

- : Broadcast Waves
- : Blockchain
- ✓ : Verification successful

An explanation of the verification experiments regarding this method was published in the November 2023 issue of Broadcast Technology(Hoso-gijyutsu).

Authentication for disaster relief support

- Volunteer authentication
- Permission certificates for heavy machinery,
- Authentication for electronic money, etc.

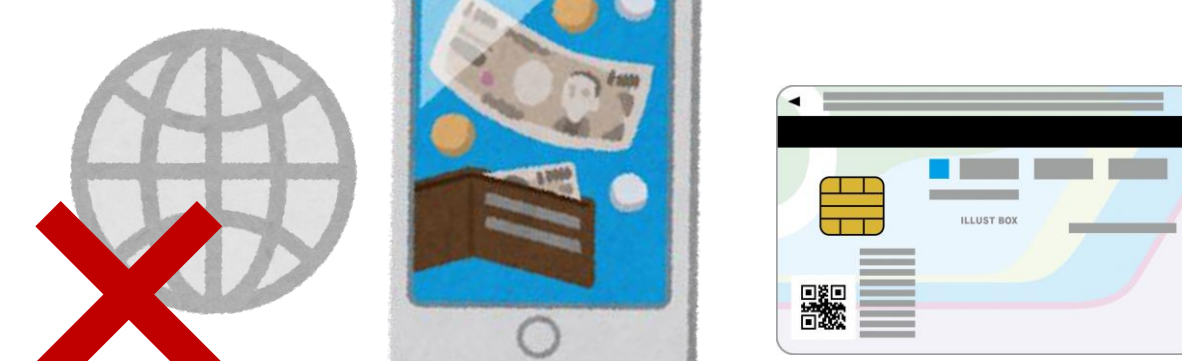


Enabling the utilization of certificates and electronic money brought into network-disconnected environments.

offline

Authentication for user

- Authentication via personal identification card
- Offline payments, finance
- Public area news, etc.



By separating the authentication pathway from online channels, we protect users from attacks attempting to hijack internet access.

During normal times

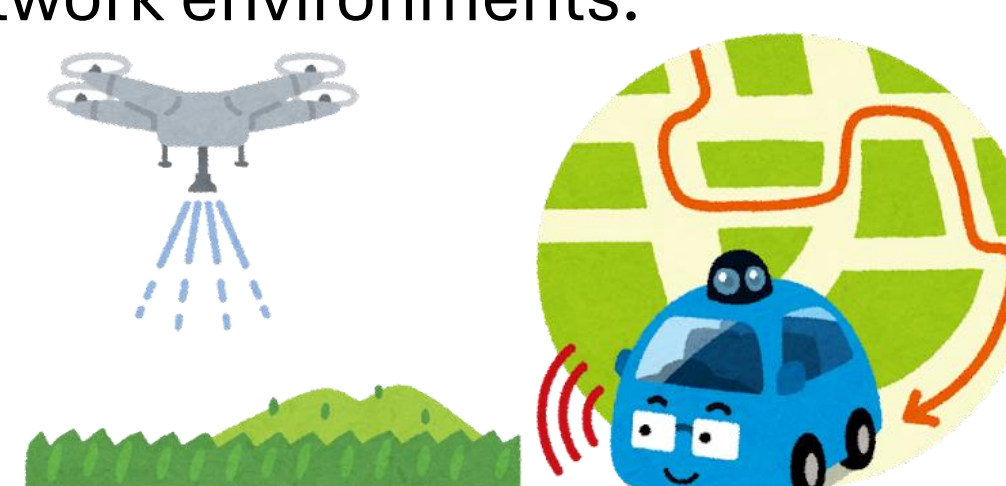
Evacuation shelter notice board

- Disaster relief permission certificate
- Disaster signage, etc.

Verification of information received from the internet, particularly information critical to the safety of local residents, is conducted using data sent via broadcast waves.



By combining one-way information transmission, we alleviate network loads, supporting the realization of IoT and multi-network environments.



- Air mobility
- Agricultural and transportation tech
- Trusted Web

Authentication of disaster information

online

Authentication of public data