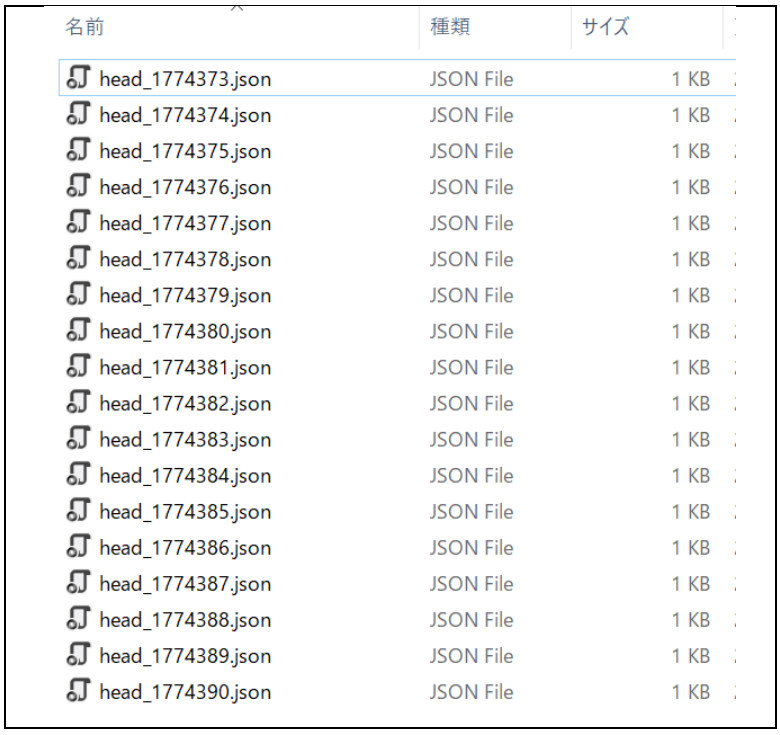
6 Data structure after receiving IPDC（3-a)

6.1 Data Structure and Received Data

6.1.1 Received Data and Its Structure

The JSON is obtained via an IPDC dedicated receiver. The received JSON files are managed in a specific folder. In the case where the disaster area lacks internet access and cannot retrieve block information from the Cardano blockchain, the block header information received via IPDC broadcast is used to verify and validate certificates.



名前	種類	サイズ
head_1774373.json	JSON File	1 KB
head_1774374.json	JSON File	1 KB
head_1774375.json	JSON File	1 KB
head_1774376.json	JSON File	1 KB
head_1774377.json	JSON File	1 KB
head_1774378.json	JSON File	1 KB
head_1774379.json	JSON File	1 KB
head_1774380.json	JSON File	1 KB
head_1774381.json	JSON File	1 KB
head_1774382.json	JSON File	1 KB
head_1774383.json	JSON File	1 KB
head_1774384.json	JSON File	1 KB
head_1774385.json	JSON File	1 KB
head_1774386.json	JSON File	1 KB
head_1774387.json	JSON File	1 KB
head_1774388.json	JSON File	1 KB
head_1774389.json	JSON File	1 KB
head_1774390.json	JSON File	1 KB

FIGURE : FOR EXAMPLE OF FILES(BLOCK HEADER JSON)

6.2 IPDC Receiver

6.2.1 IPDC Receiving Protocol and Receiving Processing

The IPDC protocol is the following model. When receiving, the yellow part is used in reverse to the sender. IP packets received using the broadcast protocol (MPEG-2 TS format) are reconstructed by Flute and can be obtained as the original file. This file can be stored at a wide range of receiving points that can receive broadcast radio waves, making it effective.

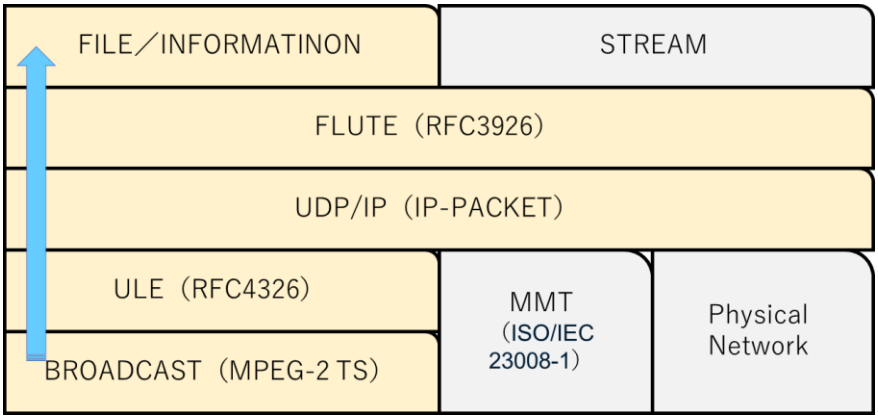


FIGURE: IPDC PROTOCOL STACK (RECEIVE DIRECTION)

<Reception Process>

To receive the broadcast, an IPDC receiver is used. Within the receiver, FLUTE is configured as the IP layer, so the FLUTE packets are reassembled to reconstruct the original file. This allows the file to be retrieved as it was at the time of transmission, and this file is then used to perform verification processes.

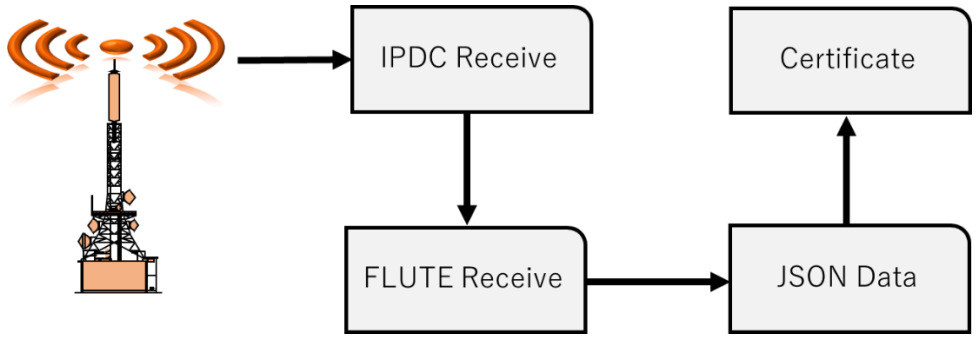


FIGURE : BLOCK DIAGRAM FOR IPDC RECEPTION