

A Blockchain Based Network

Mining is done using Proof of Coverage (PoC). Unlike Proof of Work, it relies on radio communication and has a light power consumption.



FOR NETWORK INFRASTRUCTURE OWNERS

A crypto token (HNT) is mined during PoC and data transfer. Uses are:

- Burn into DC at market rate
- Sell on crypto exchanges



FOR NETWORK USERS

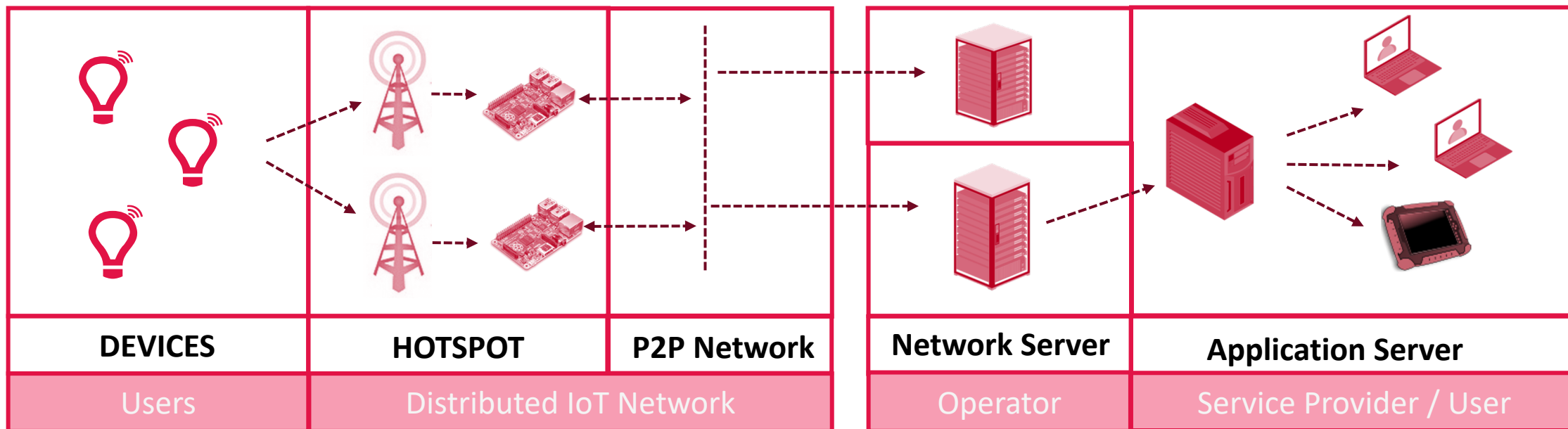
Acquire a specific token (DC) with a fixed price for data transfer



DATA IS ROUTED ON NETWORK SERVERS

Payload is routed to the right network server. Today Helium propose one.

helium Network Architecture



Helium distributed architecture

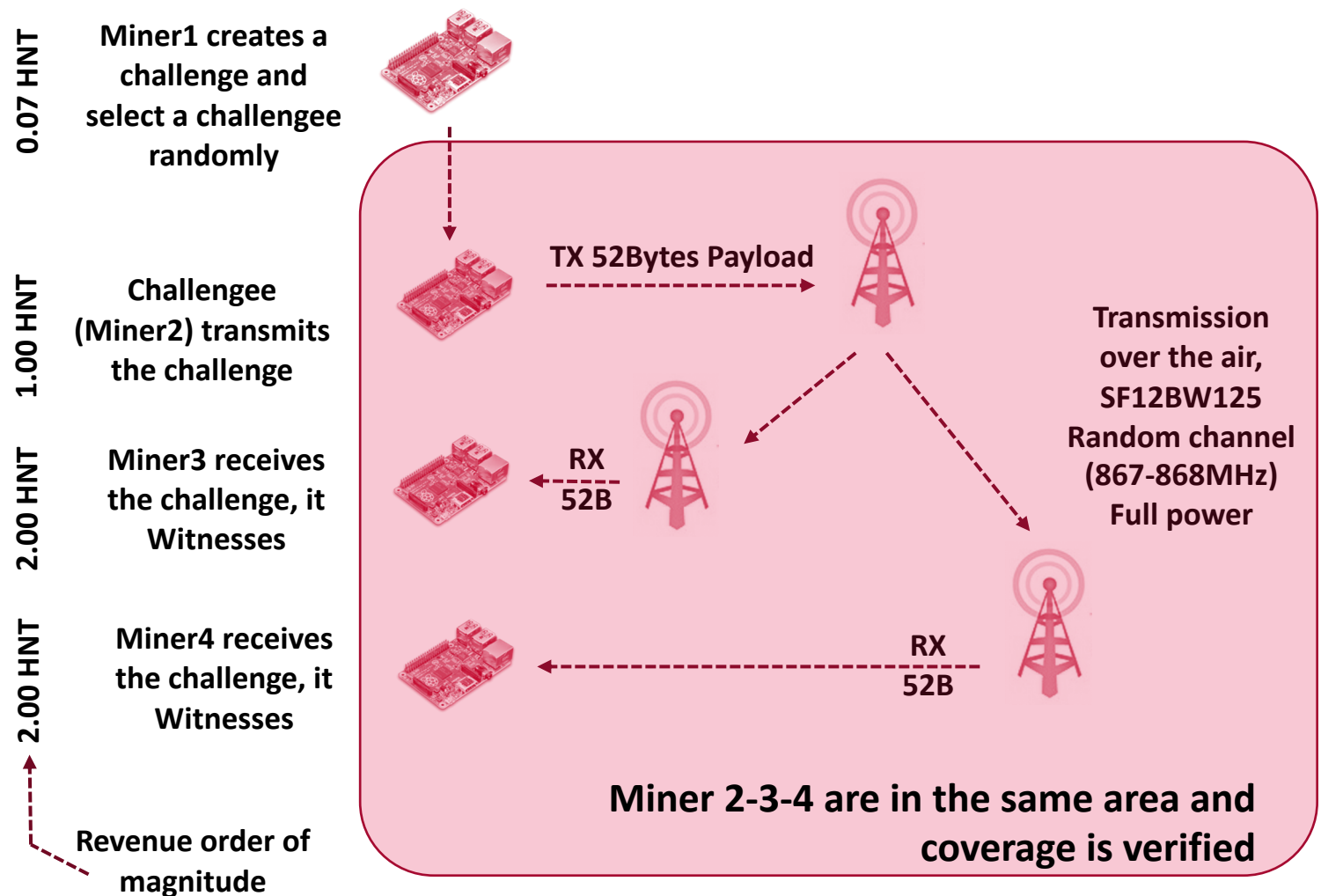
The HELIUM network is composed by hotspots. A Hotspot is a LoRaWan gateway associated to a Miner. A miner is lightweight and can run on a raspberry Pi. It is running in a docker container.

The miners are connected altogether over a P2P network. They are maintaining / running the blockchain.

Device communication passes through these different layers and are routed up to their specific Network Server. The distributed network supports multiple Network Servers. (Network Servers are centralized components in this architecture). Application servers works on helium as on any other Network Server. Nothing specific. The data itself is not inside the blockchain.

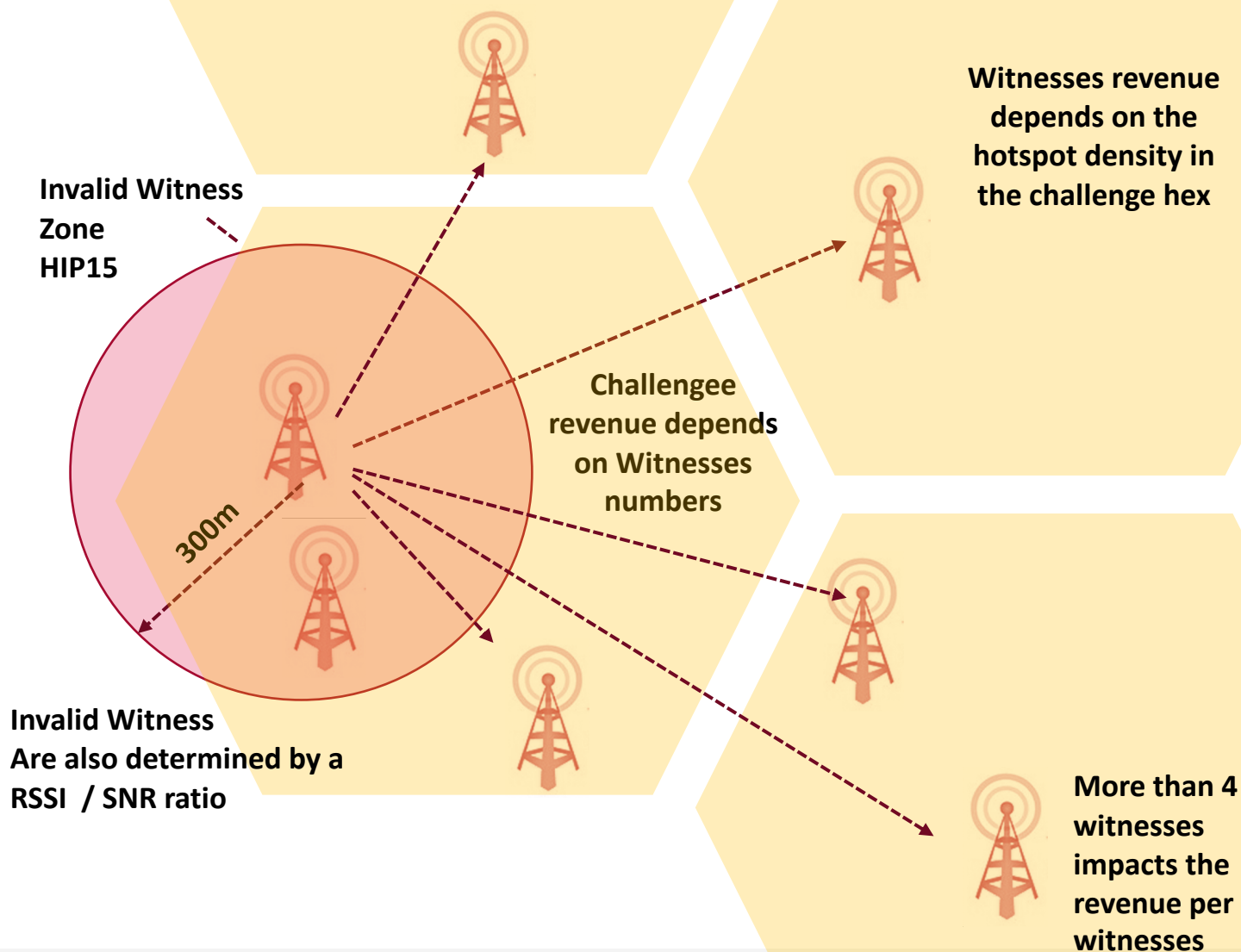
PoC Principles

- > Hotspot create Challenge on every 240 blocks (about 4 hours). Challenge goes to a random target : Challengee
- > Challengee transmits a 52bytes message over the air. It is the PoC packet.
- > Hotspots around receives the message and report reception to the chain. This is a Witness.



Witness Validity And Revenue Adaptation

- > The purpose is to facilitate the network extension instead of concentration
- > Encourages outdoor antennas and larger coverage
- > Encourages to deploy on locations that extend the coverage step by step



DC Principles

- > Blockchain transaction creates HNT
- > HNT can convert to DC for communications.
- > Every 24 bytes communication burn 1 DC.

With a fixed DC price and the HNT <-> DC burn principle, the HNT value is directly related to the data traffic processed by the network.

	HNT	DC
Value	Market rate	\$0.00001
How to acquire?	Mined	Burn HNT
Transferable	Yes	No

