

DataHop
datahop.network

*Redefining content distribution
using decentralized networking*

Team: R&D based company Excellent Innovation team



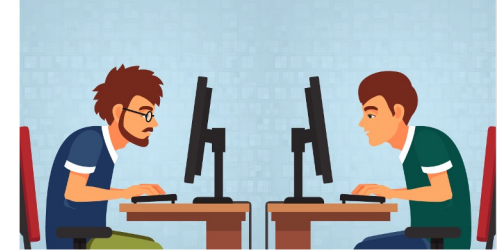
Dr. Sergi Rene has been a Research Scientist at UCL with consulting business experience.



Dr. Michal Krol is a Lecturer at City University and previous postdoc at UCL.

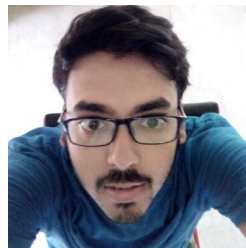


Dr. Onur Ascigil is a Lecturer at Lancaster University and previous postdoc at UCL.



Excellent team of developers, sourced out of PhD and MSc students.

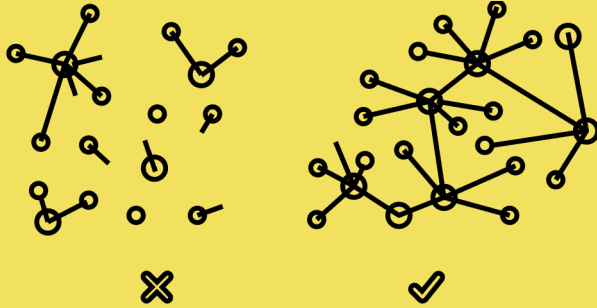
Dr. Ioannis Psaras
ex-UCL academic
now Research Scientist at Protocol Labs



Sabyasachi Patra
IPFS expert and excellent go developer

All of our core team members are PhD graduates with extensive background in research, development and implementation of P2P and wireless networked systems.

Internet Content Distribution Problem

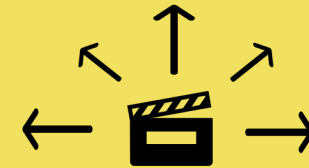


Internet Content Distribution is not efficient

Highly centralized and cloud-dependant, limiting performance and Quality of Experience (QoE)

Poor scalability and costly for content providers

£100K content distribution cost for a monthly 40 min video with 1M viewers



High distribution costs

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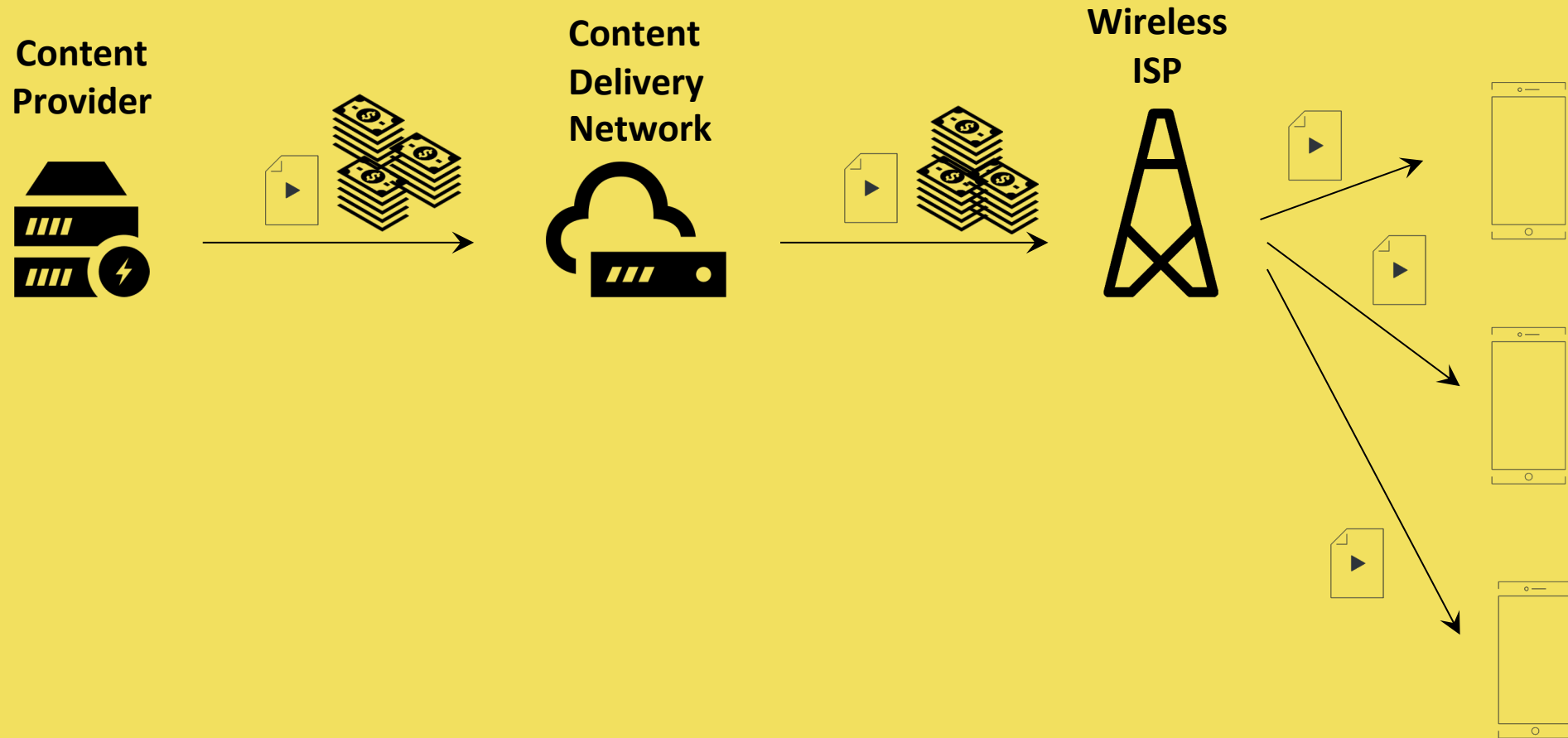


"We live in a disconnected & battery powered world, but our technology and best practices are a leftover from the always connected & steadily powered past." <http://offlinefirst.org>

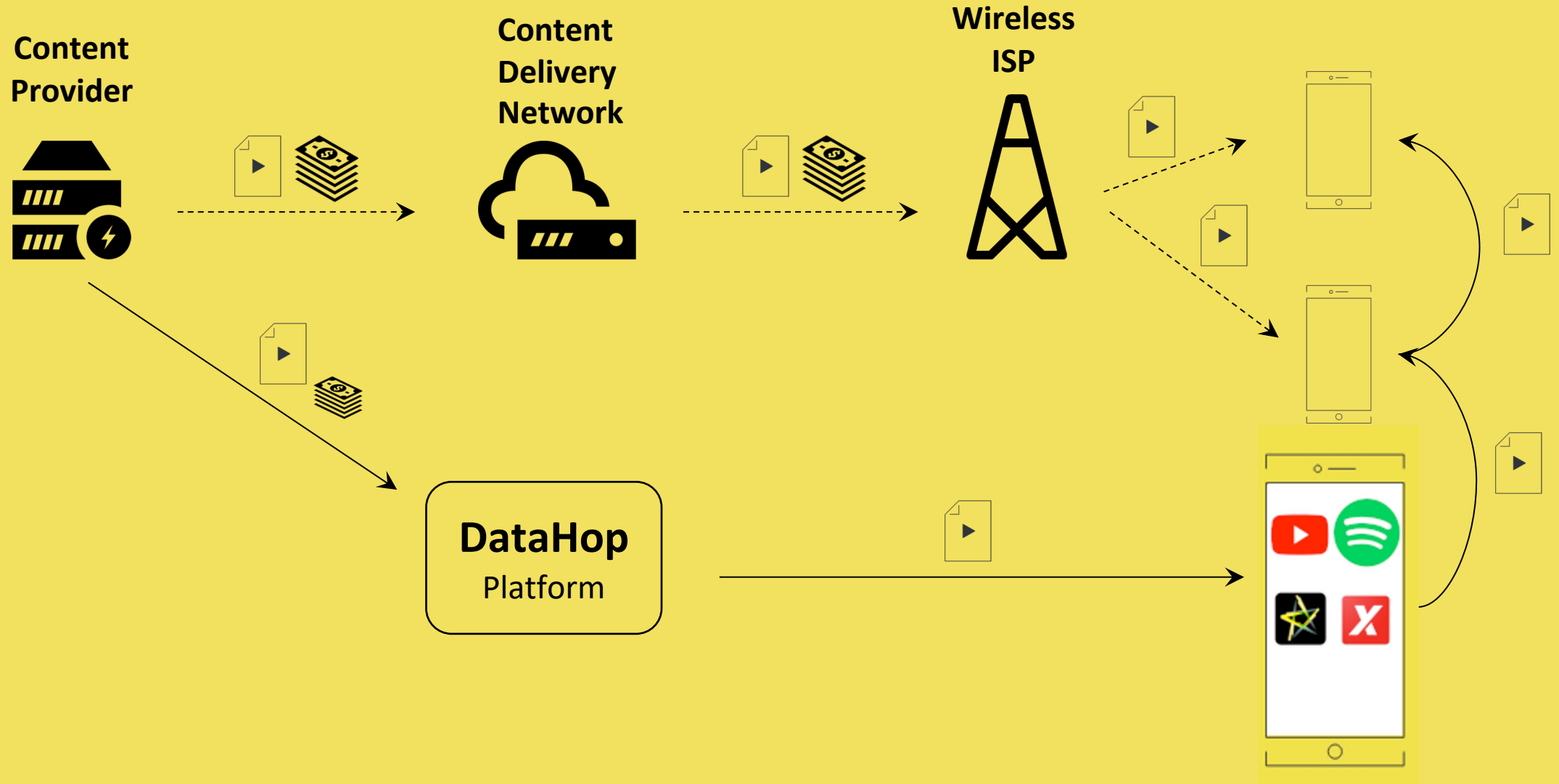
Despite mobile being the future, distribution is not mobile adapted

Leading to poor mobile QoE, playback disruptions and consumer frustration when network disconnections

Infrastructure Costs Lead Distribution Cost

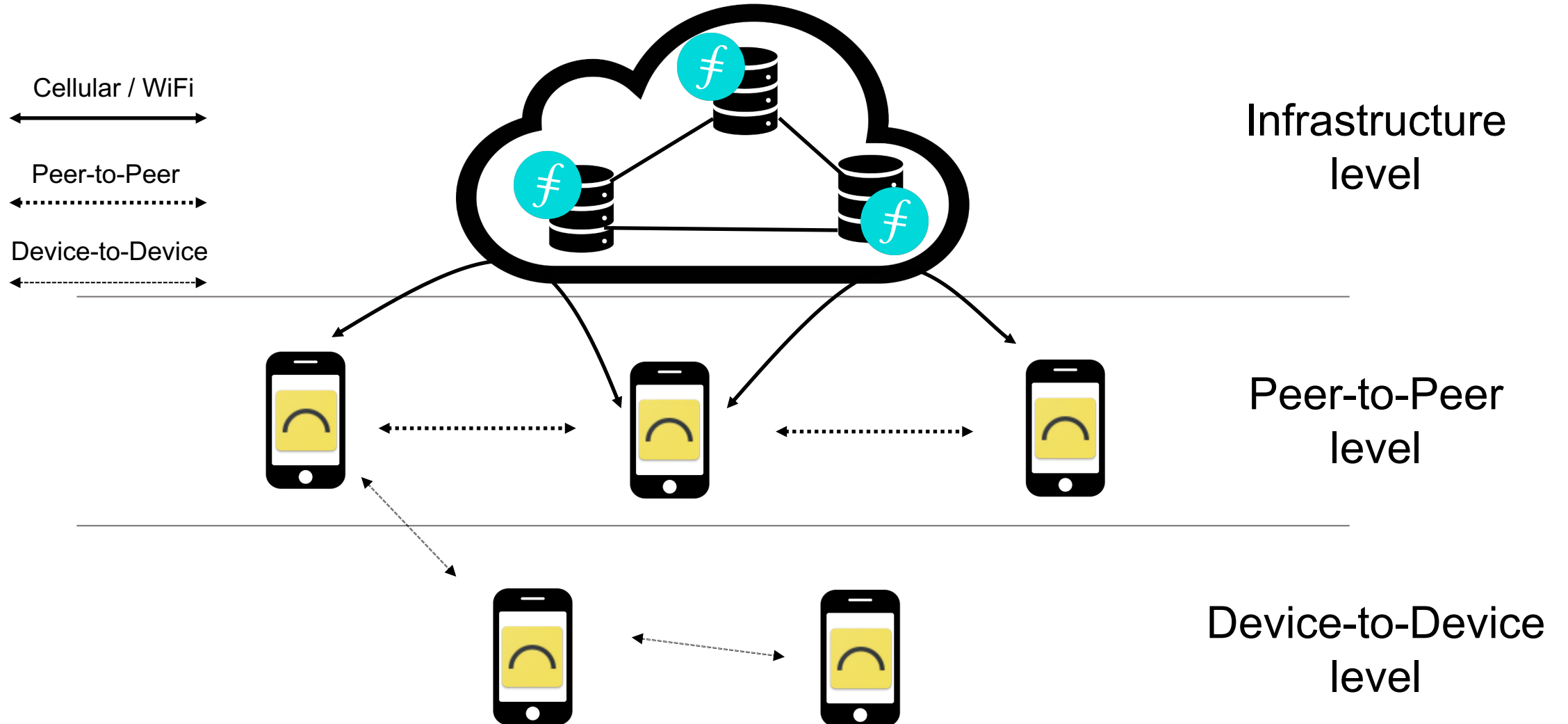


DataHop navigates by making consumers an active part of the network



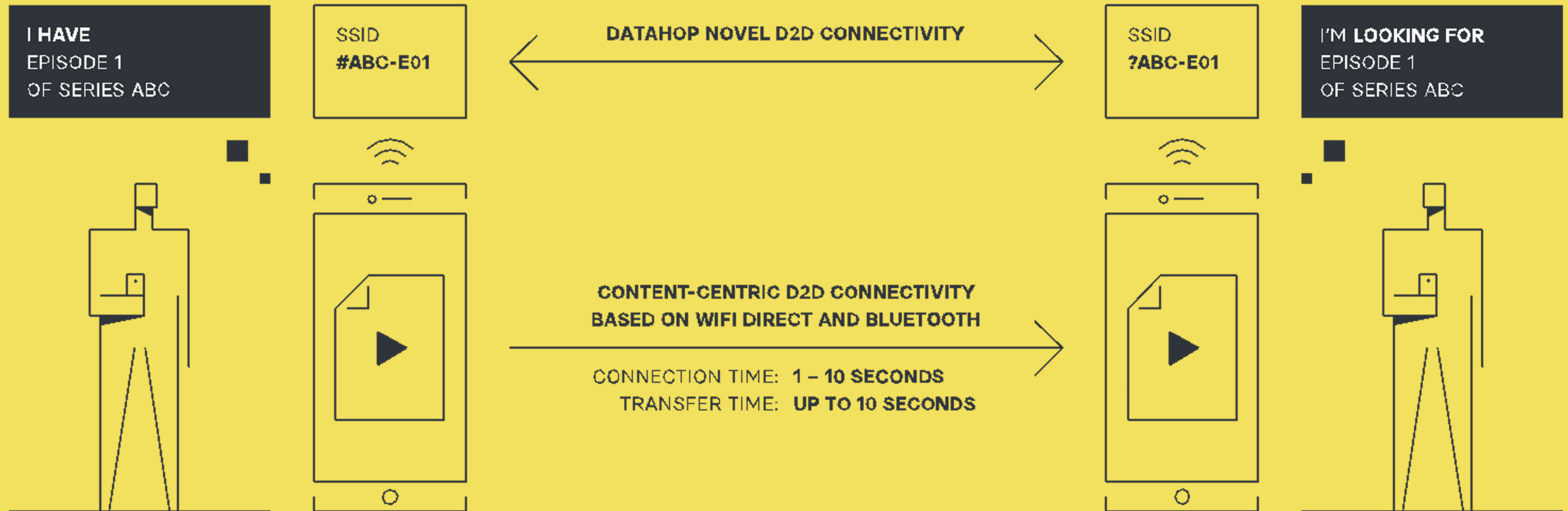
DataHop

The mobile-first and decentralised edge CDN based on 3-level

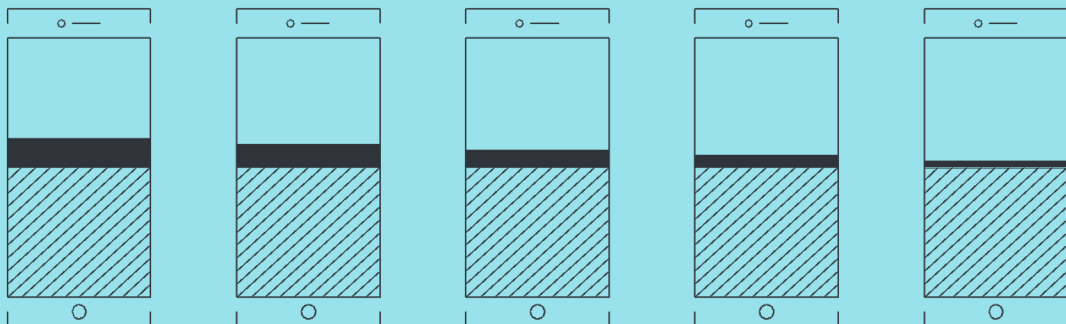


DataHop Network Technology

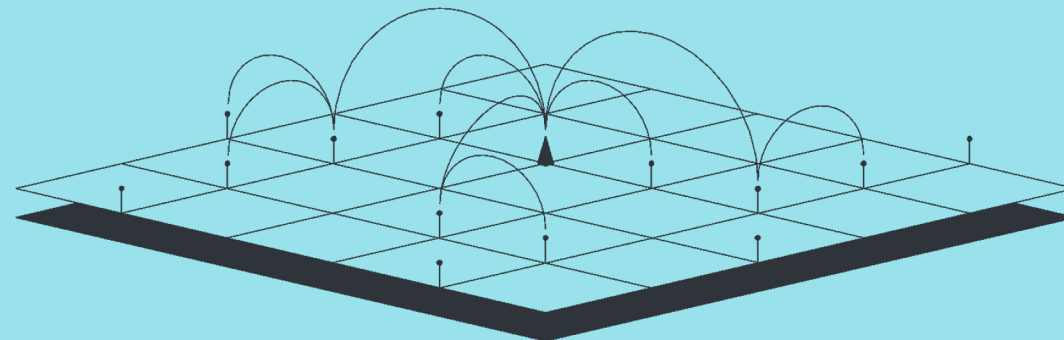
Seamless D2D Connectivity



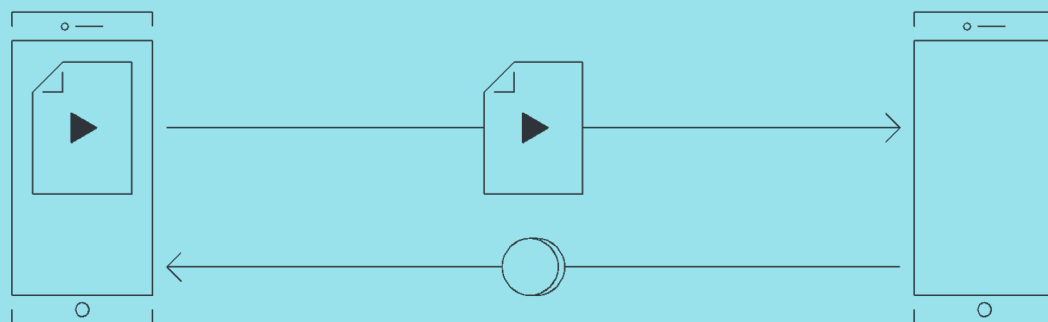
1. Share smartphone memory



2. Move in urban environments



3. Connect opportunistically & share content



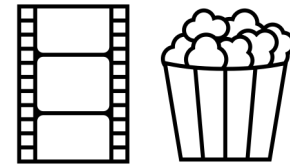
Content providers Benefits

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Reduce CDN costs



Reduce churn rate

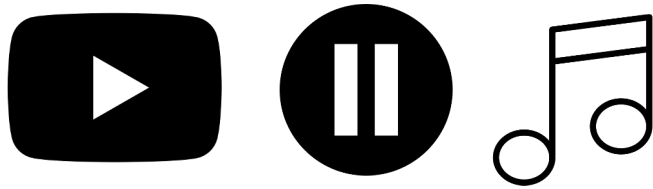


Improve QoS/QoE

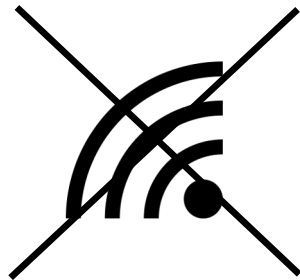


Increase users' consumption

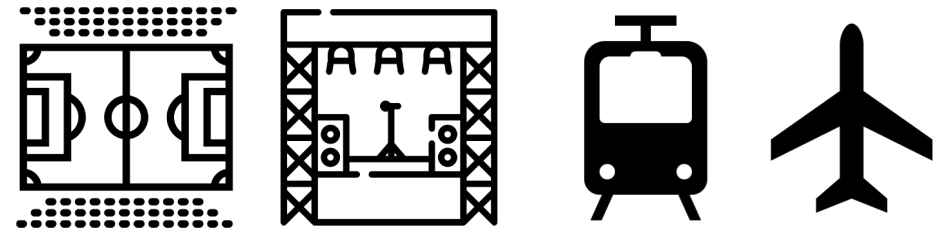
End-users Benefits



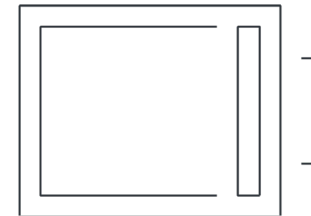
Increased content consumption



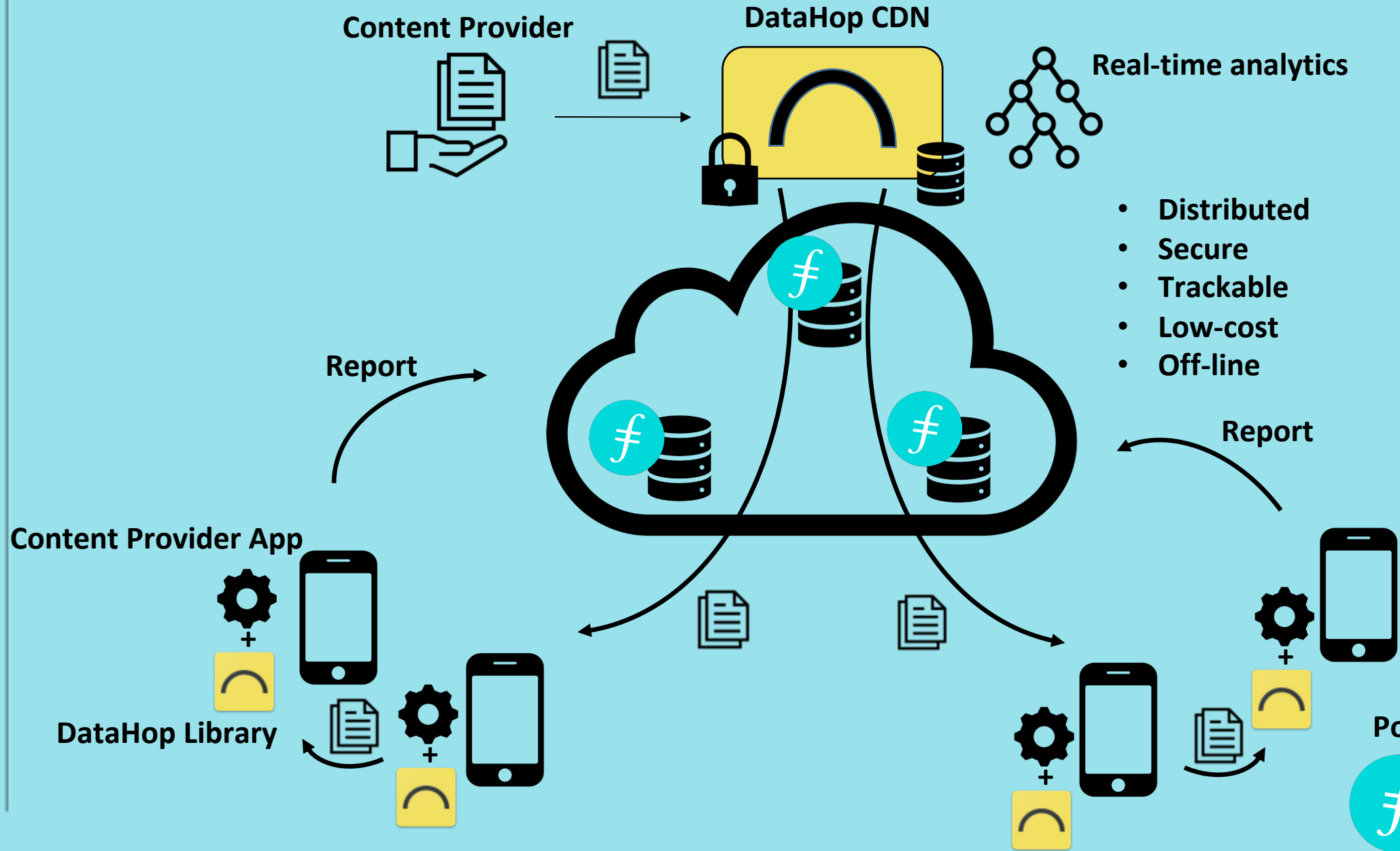
Free traffic off-load



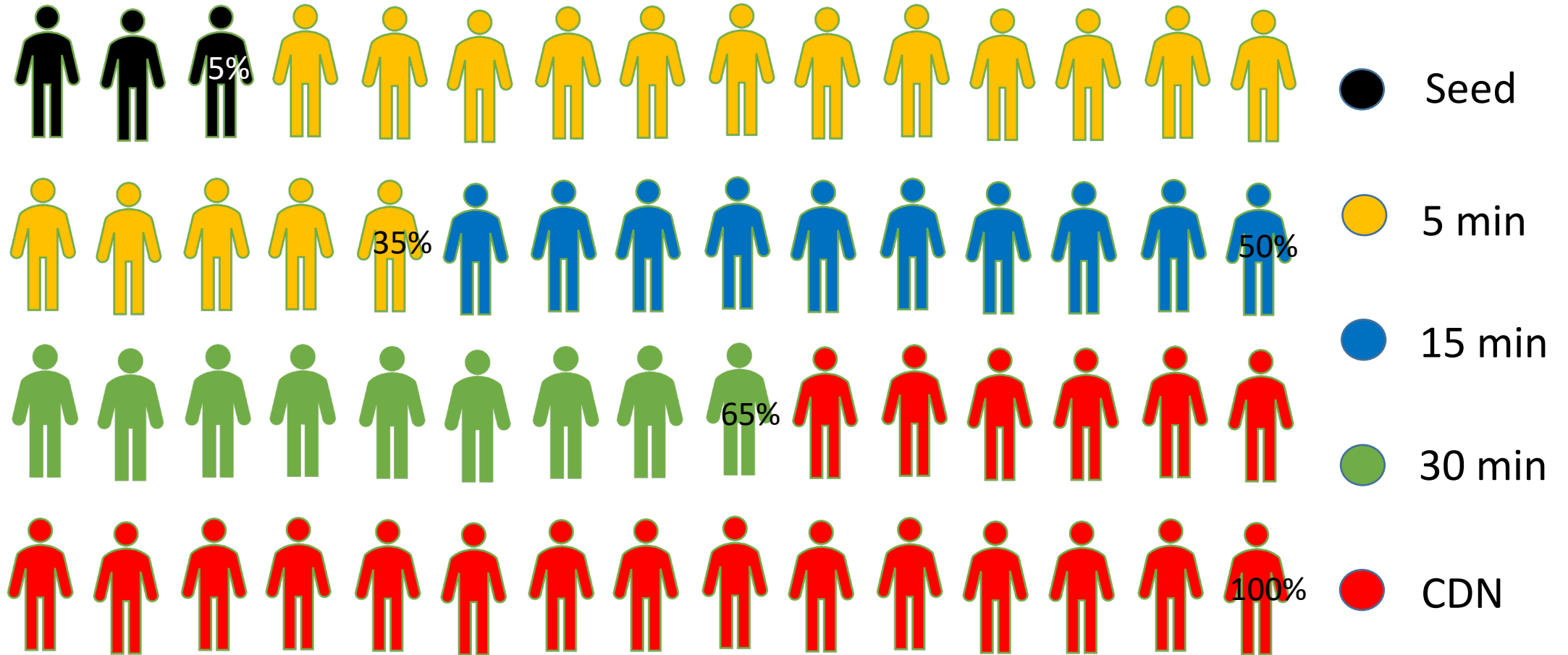
Improved User Experience



Minimum Battery Consumption



Human Mobility as the Medium for Content Distribution



Seeding 5% of users can reach up to 65% in a mid-size city like Helsinki*

*I. Psaras *et al.*, "On the feasibility of a user-operated mobile content distribution network," *2017 IEEE 18th International Symposium on A World of Wireless, Mobile and Multimedia Networks (WoWMoM)*, Macau, 2017, pp. 1-9.

Mixed open-source and token-based business model

Open source Features

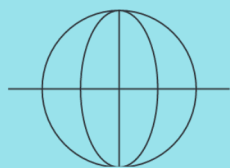
- ✓ Decentralized CDN SDK
- ✓ Basic analytics
- ✓ Security

Token-based Features

- ✓ Multi-CDN
- ✓ Infrastructure (AP integration)
- ✓ Extended analytics
- ✓ AI context-based prefetching
- ✓ Tokenized users' rewards
- ✓ Inter-app sharing

DataHop is the only/UNIQUE decentralized mobile CDN

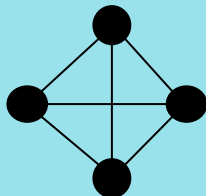
Fixed CDN



- Home TV
- Desktop computers
- Fixed network



P2P CDN



- Offloading CDN traffic
- Borrows users' bandwidth
- Fixed network (no good for mobile)



Decentralized CDN



- Decentralized CDN
- Users' rewards
- Fixed network
- Reduced cost



Edge & Mobile CDN



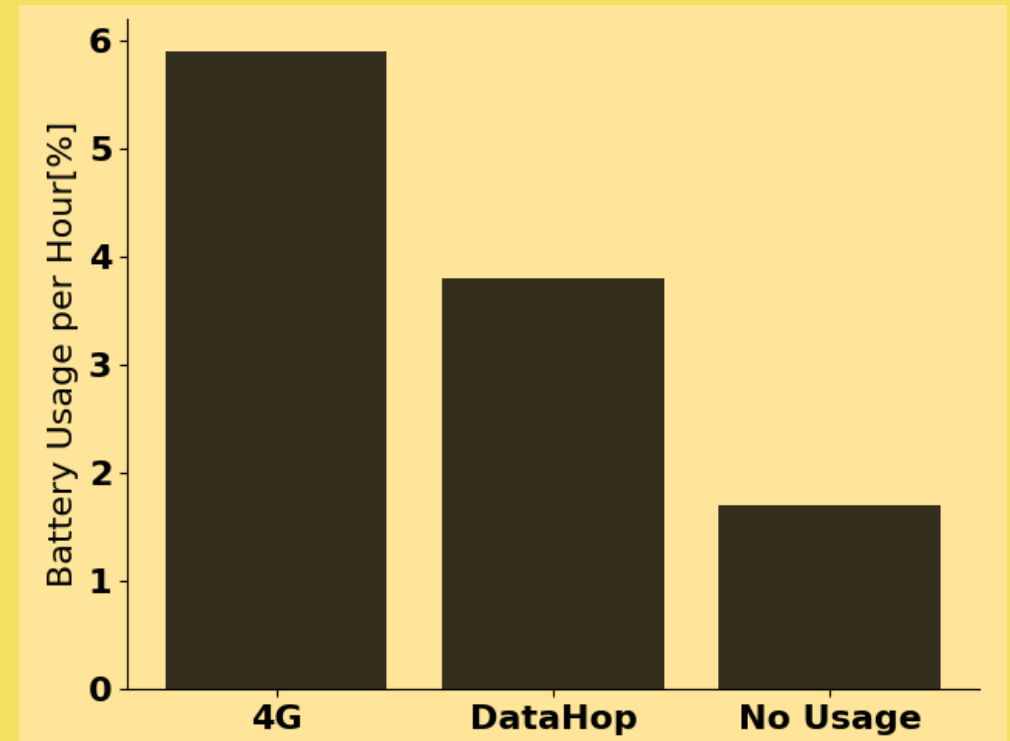
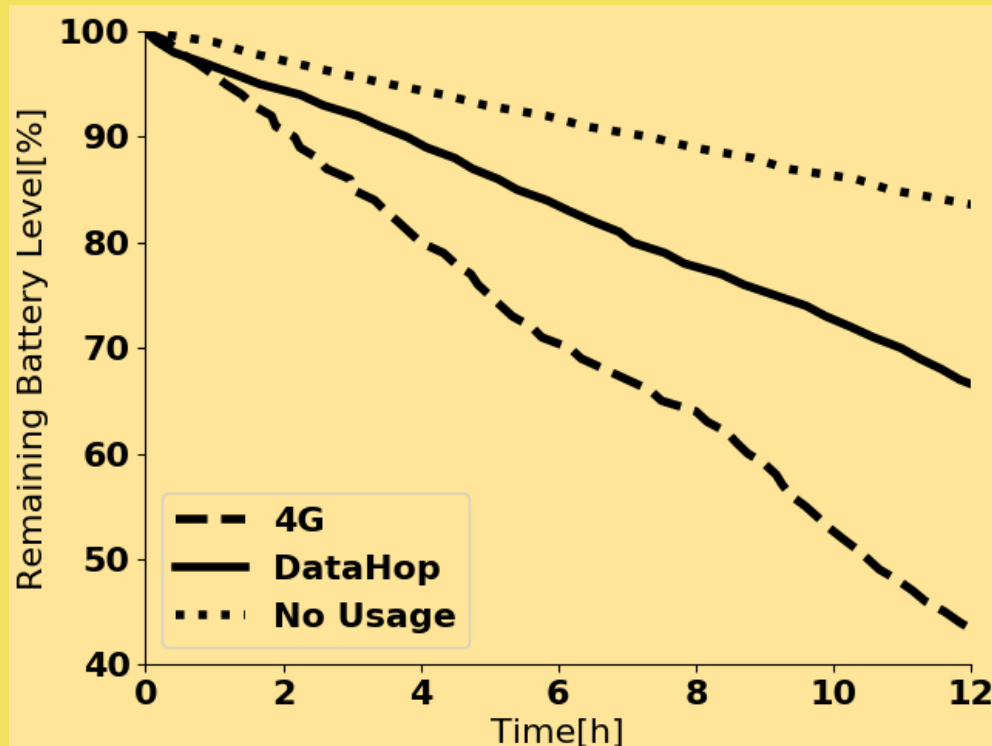
- Decentralized CDN
- Wireless last mile
- Mobile enabled
- Rewarding users
- Off-line communications
- Smart prefetching



Beyond Infrastructure

Energy Efficient Solution

- Battery consumption measured in a Google Pixel 2 (2700 mAh battery) smartphone retrieving a 5 min video clip every 5 min during 12 hours.



- More energy-efficient than using 4G connectivity.
- Downloading using 4G consumes ~50% more.
- Only ~15% extra battery consumption for the whole day.

~~Connected to the network~~
Active part of the network

datahop.network

contact: contact@datahop.network