

# A Decentralized Online Social Network (DOSN) Reference Architecture: Challenges and Opportunities

## Background

Current web-based OSNs:

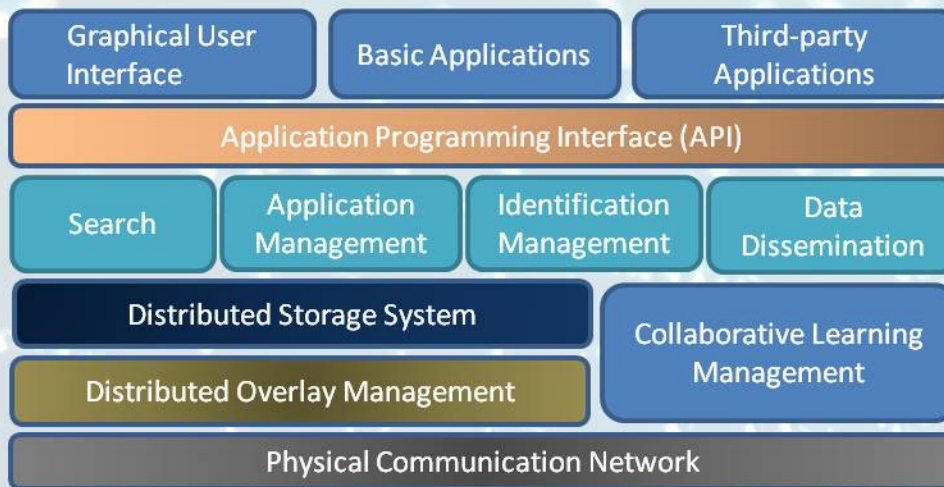
- Provider dependent
- Centralized management
- No privacy
- Costly



## Objective

Our goal is to develop a **decentralized** framework for OSN with the promise of complete **freedom of any form of censorship**. Moreover, this framework offers a **cost-effective** alternative as it operates based on the resources contributed by its users.

## Proposed Architecture



Distributed infrastructure for handling:

- ✓ Search and addressing
- ✓ Data storage and content distribution
- ✓ Data dissemination
- ✓ Updates propagation.

## Challenges

- Scalability
- Availability
- Autonomy
- Fault-Tolerance
- Churn
- Openness
- Transparency
- Global Knowledge

Vs.

## Opportunities

- P2P Network Overlay
- P2P Storage System
- DHT
- Gossip Learning
- Swarm Intelligence