

# Security and Privacy in Social Networks

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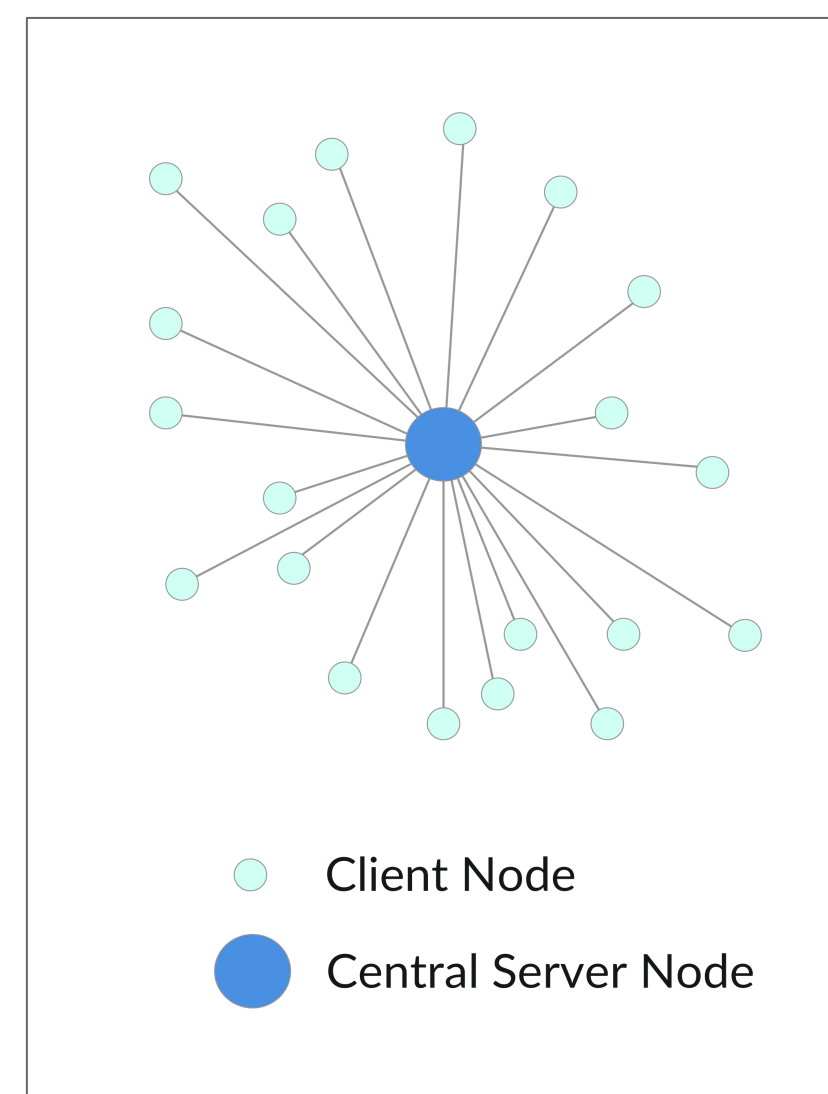
## Social Networks

Social networks are Internet-based services that provide their users a profile to share information with their connections.

- Popular because makes communication **easy**.
- Taking a lot of reaction about **personal privacy**.

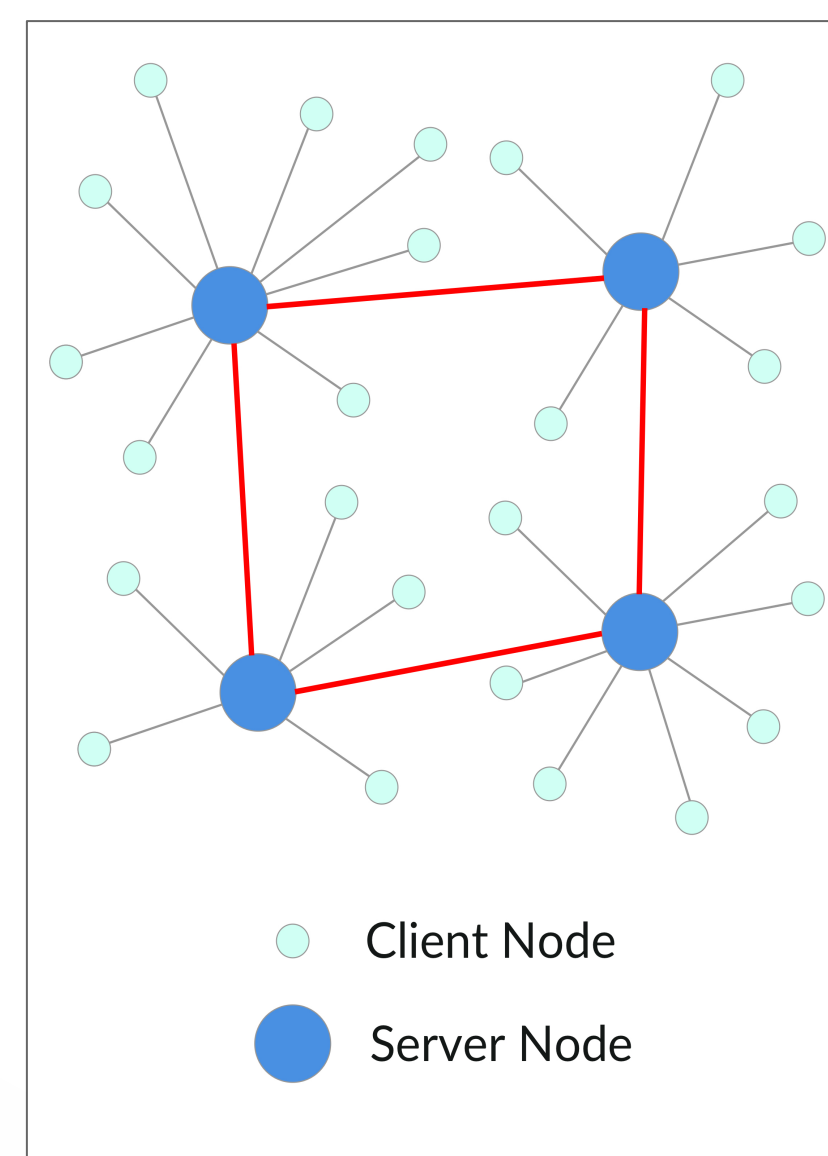
## Centralized Social Networks

- A **central server** that controls the whole data flow.
- Have **full control** on users' personal information.
- **Facebook, Twitter, LinkedIn.**
- **Very popular** companies.
- Have a business model that aims to use this huge data in **advertisement** purposes.
- ❑ Therefore, **privacy problems**.



## Decentralized Social Networks

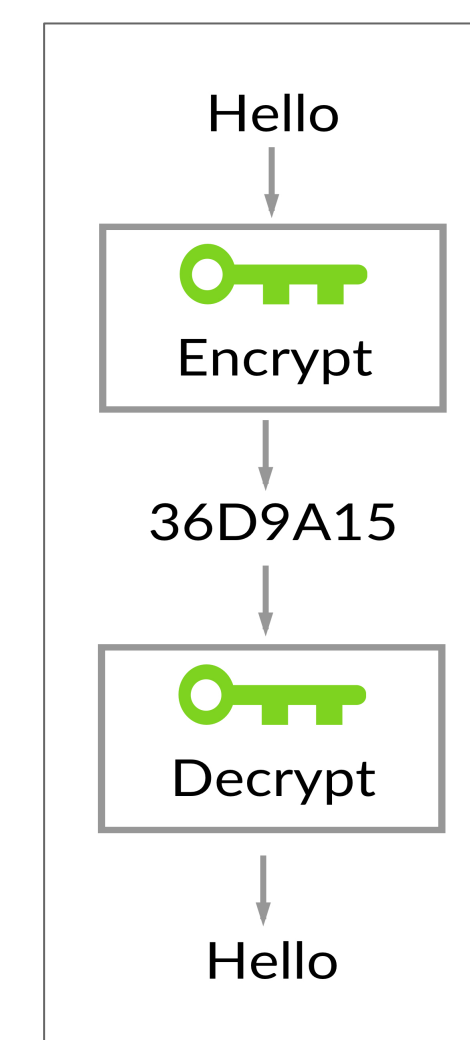
- **Many servers** called **pods**.
- Users can either **choose** one of the server or **host** their own servers for their data storage.
- All of these servers, which are located in different physical locations, are **connected** to each other through the network.
- **Diaspora, GNU Social, Minds.**
- **Not very popular** when compared to centralized ones.
- ❑ Improved **personal privacy**.



## Security and Privacy Properties

- In order to improve their users' security and privacy, social networks have some security properties.

### Facebook, A Centralized Social Network



- Using **encryption** technique to secure **traffic**.
- **Messenger**, the chat application of Facebook, is using **encryption** to protect data transfer against **eavesdropping attacks**.
- Using **Hyper Text Transfer Protocol Secure (HTTPS)** to protect users against malicious attacks.
- In case of detecting some suspicious situations, showing a **CAPTCHA** to check whether the user is human or not.

### Diaspora, A Decentralized Social Network

- Guarantees that they **do not use any personal data** for any reason.
- **Users** have **more control** on their own data because:
  - Can **host** their own pod.
  - Can **choose** one of the existing pod.
  - Users do not have to specify their **real identity**.

### Providing Confidence on Personal Privacy

- ❑ Social networking companies **should not have full control** on their users' personal information to provide confidence.
- ❑ **Decentralized social networks**, such as **Diaspora**, are paying attention to this rule.

### References:

Mustafa Saraç, Analysis of Security and Privacy in Social Networks