

## **Decentralized Architectures**

- Vertical distribution
  - Modularized system
  - Each component is a logical part of the system
  - e.g. Client-Server systems
- Horizontal distribution
  - Components share the logical parts.
  - Can be used for achieving high performance or(/and) availability or reliability
  - e.g. Peer-to-Peer systems

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## **Peer-to-Peer Architectures** Any process can communicate with any other process, but according to an overlay network □ Structured • The overlay network is constructed according to a deterministic procedure. • e.g. through a distributed hash table (DHT). • membership management: • a node can join and leave the network. for many applications it is important to know when a node belongs to the network or not. Unstructured • The overlay network is constructed using randomized algorithms. • Hard to scale. To find data super-peers might be used 6(8) - DISTRIBUTED SYSTEMS System Architectures - Sven Ame Andreasson - Computer Science and Engineering CHALMERS **Hybrid Architectures** Edge-Server systems • Servers on the Internet at the boundary to an Enterprise Network.

- Servers on the internet at the boundary to an Enterprise Network.
- Internet can be seen as a Core Internet and the Local Networks connected to it.
- Collaborative Distributed systems
  - e.g. BitTorrent



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