

# Simulation of the Nomification of Independent Chord Rings

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# Outline

- 1 Goals of Modeling and Simulation
  - Problem Space
  - Chord
- 2 Developed Models
- 3 Experiments and Results
- 4 Conclusion and Future Work

# File Lookup

- Most important function of a decentralized Peer-to-Peer system.
- Need to discover which node in the network has a certain file.
- Need to do it efficiently.

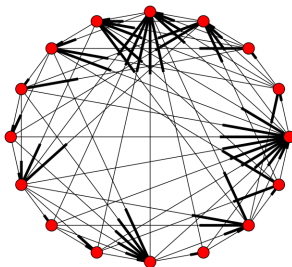
# Hashing Protocols

- One of the best solutions for this task.
- Map nodes and files identifiers to keys.
- Nodes are responsible for files with keys that match some criteria,.
- Imposes an structure on the network.

# What is Chord

- Arranges a network into a ring.
- Maximum  $2^m$  nodes in the network.
- Nodes and filenames are hashed to create an  $m$ -bit key.

# How Are Files Stored



- Node responsible for key  $\kappa$  is the *successor*( $\kappa$ ).
- *successor*( $\kappa$ ) is the node with key  $\kappa$  or first following key.

# How Are Files Retrieved

- To find a file with key  $\kappa$ , we find *sucessor*( $\kappa$ ).
- Maximum  $2^m$  nodes in the network.
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# How Is Churn Handled

- Arranges a network into a ring.
- Maximum  $2^m$  nodes in the network.
- Nodes and filenames are hashed to create an  $m$ -bit key.



# Make Titles Informative. Use Uppercase Letters.

Subtitles are optional.