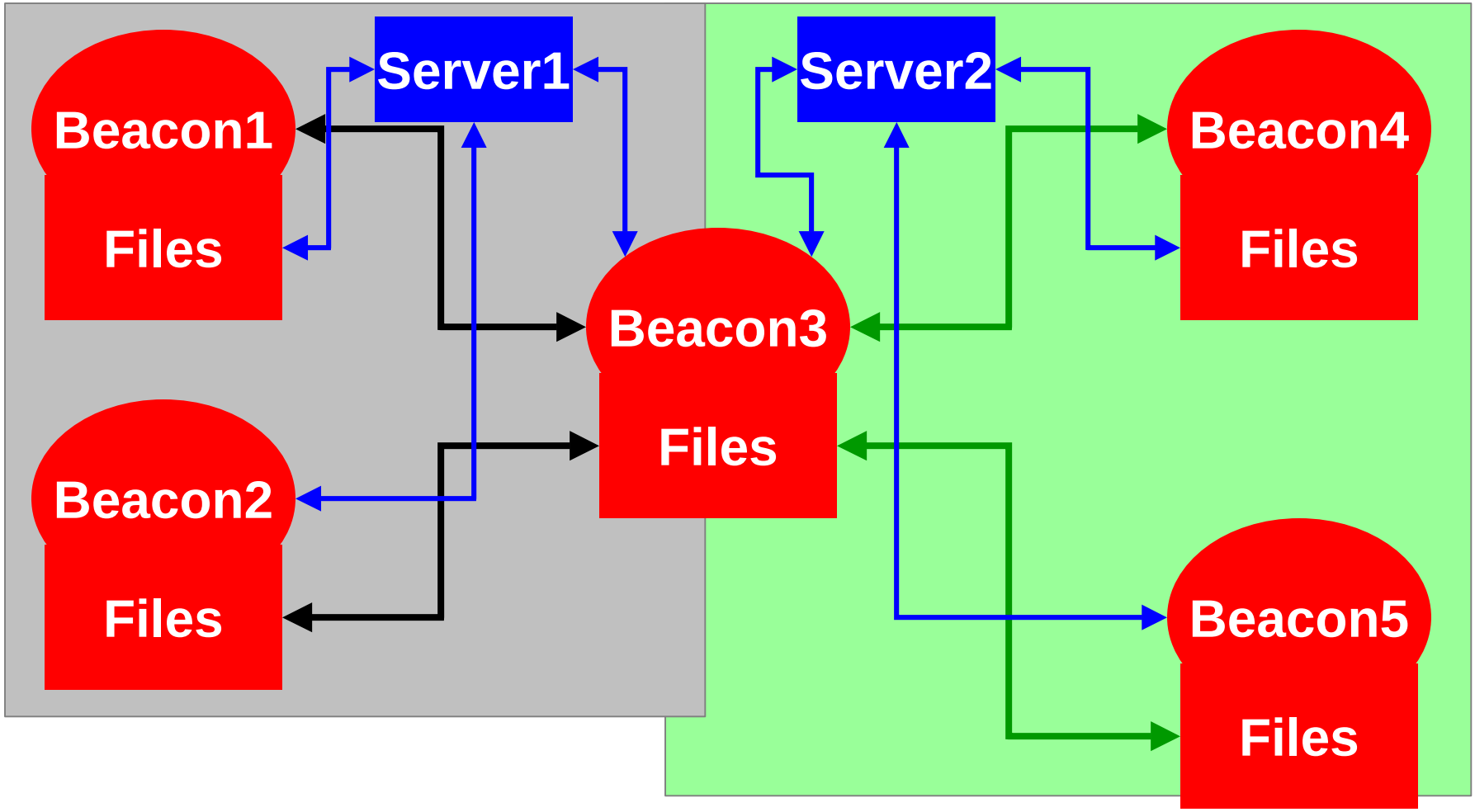
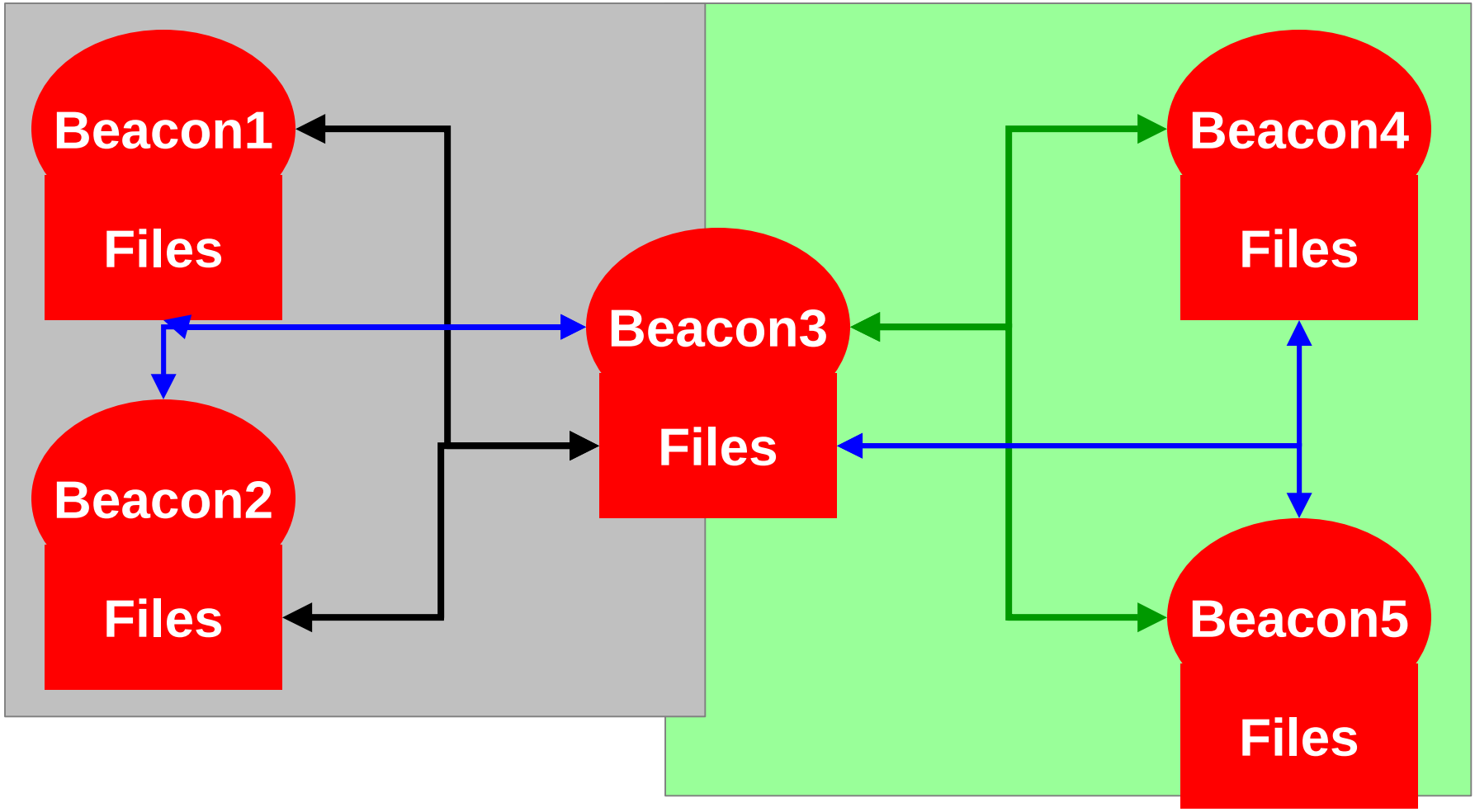
Announcements

- HW 3 – Due now
- Mid term – Next thursday
- HW 4 – Assigned today
- Course Project Proposal – Next Tuesday

Home works 1,2,3 – Central server



Home works 1,2,3 – Peer-to-peer



Home work 4

Simple authorization service

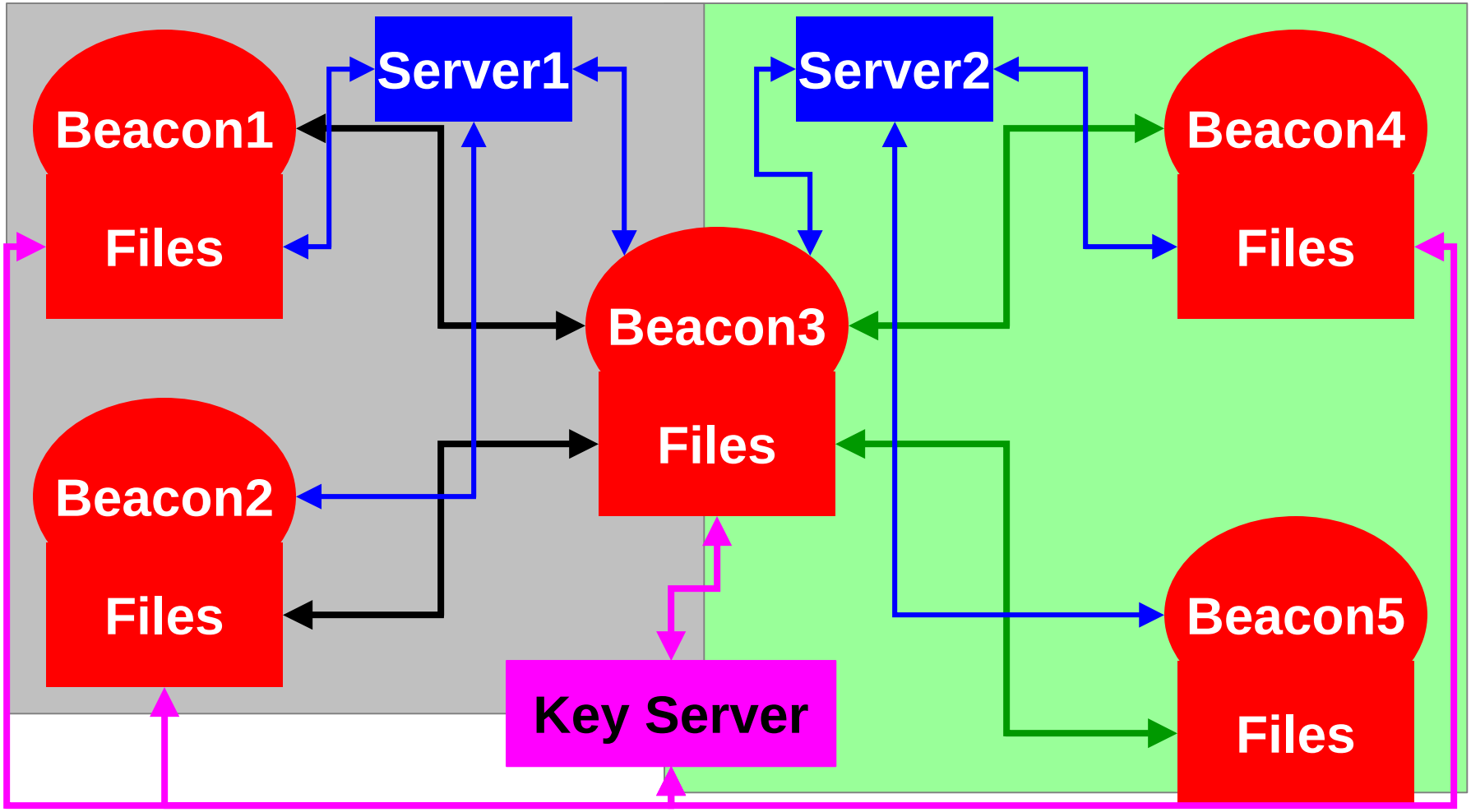
In Home work 1, 2, 3 the beacons authenticated with a name:key pair. The system issued an authorization token which was used to receive service.

In this home work, we will enforce authorization by validating these tokens.

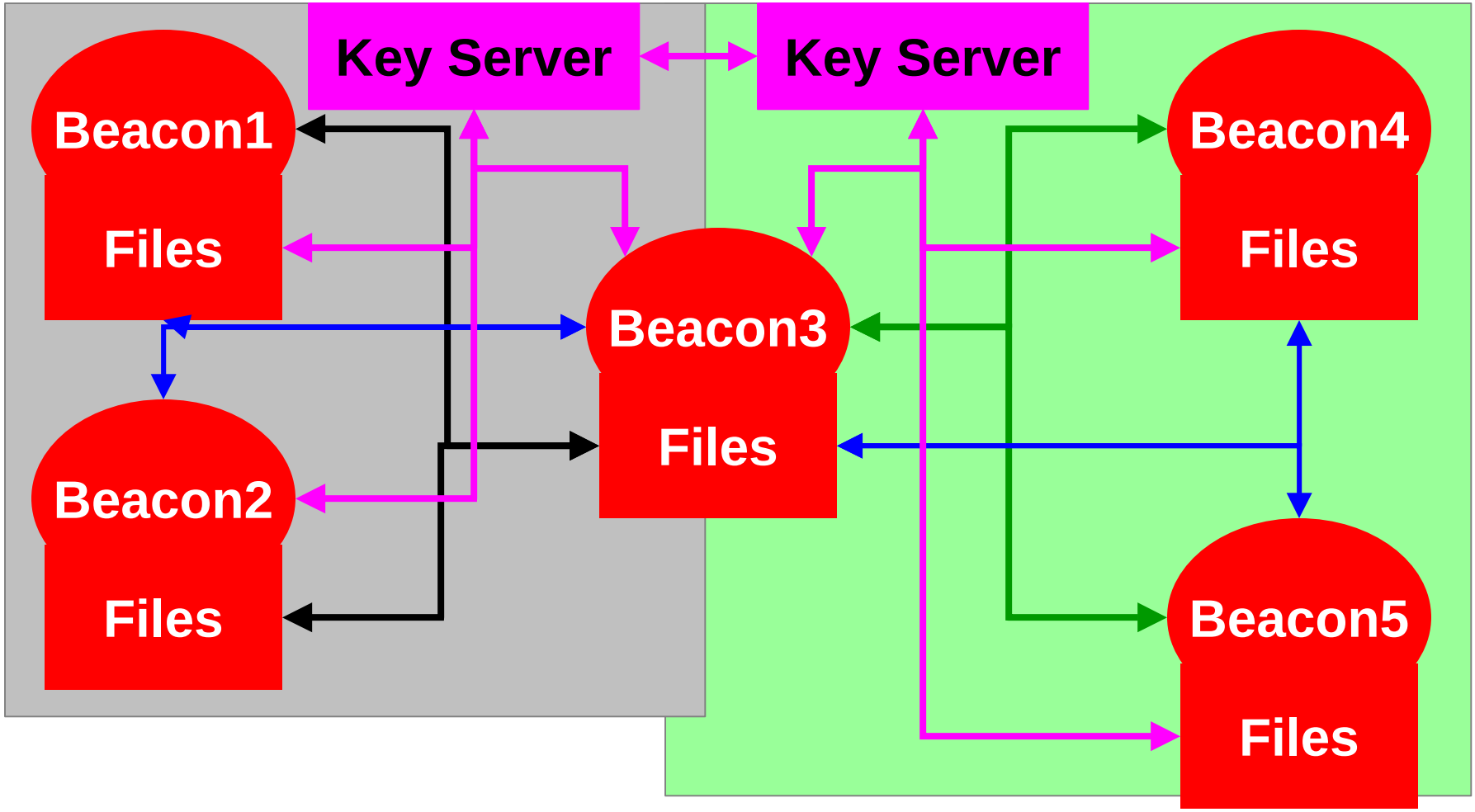
Home work 4 – Step 1

- Key Server
  - The key server will provide simple authentication service.
    - Authenticate(name, key)
      - Authenticates name:key and returns token.
      - Token valid for fixed time interval (5 seconds for evaluation)
    - Validate(token)
      - If token is valid, return the name that created the token
      - Else return error message
    - Revoke(token)
      - Invalidate a token, even though it might still have some time left. Subsequent requests with this token will fail
  - Key servers can be centralized or peer-to-peer
  - Key servers interact with beacons

Home works 4 – Central key server



Home works 4 – Peer-to-peer key server



Home work 4 – Beacon extensions

- Validate(token)
  - Contacts one or more key servers to validate the token
- Extend GET, PUT, SEARCHGET, CLOSE to validate token.
  - If token is invalid, the user has to OPEN new connection
- Robustness, scalability, time dependencies etc..

Project milestone III

- Project proposals due on 27th (next Tuesday)
- Proposals should include:
  - a description of your topic,
  - a crisp statement of the hypothesis that you will test,
  - a statement of why you think the topic is important,
  - a description of the methods you will use to evaluate your ideas, and
  - references to at least three papers you have obtained with a summary of how they relate to your work. Proposals should not exceed 2 pages in length.

Midterm – Mar 1

- Open book, open notes, individual effort (no electronic communications allowed)

Outline

- *Time, clocks and the ordering of events in a Distributed System* Leslie Lamport

Problem – happens before relationship

Happens before relationship is important

- Needed to ensure tokens are valid for the intended time interval

Discussion