

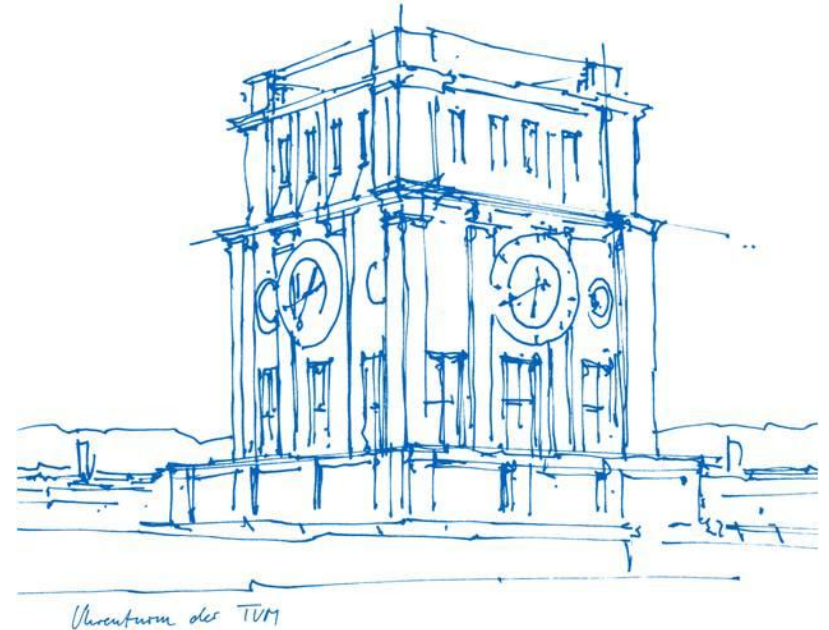
Master Practical Course: Computer Network Simulation

Assignment 1

Group 2:

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A Robust Messaging App For People Stuck in Bunkers After a Catastrophe

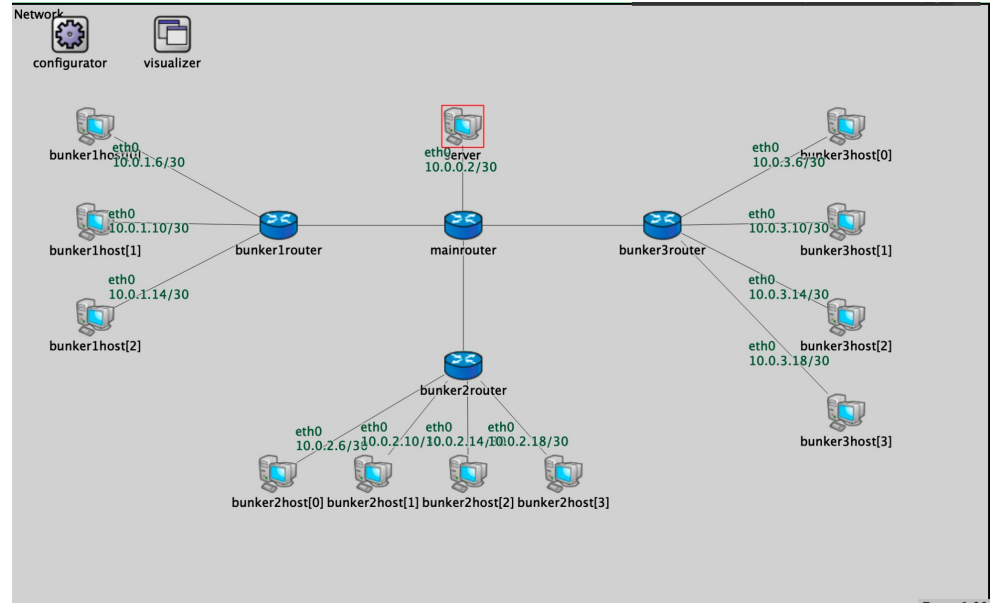
A hypothetical messaging application that

- Provides end-to-end messaging
- Provides a people discovery in bunkers

Node Types

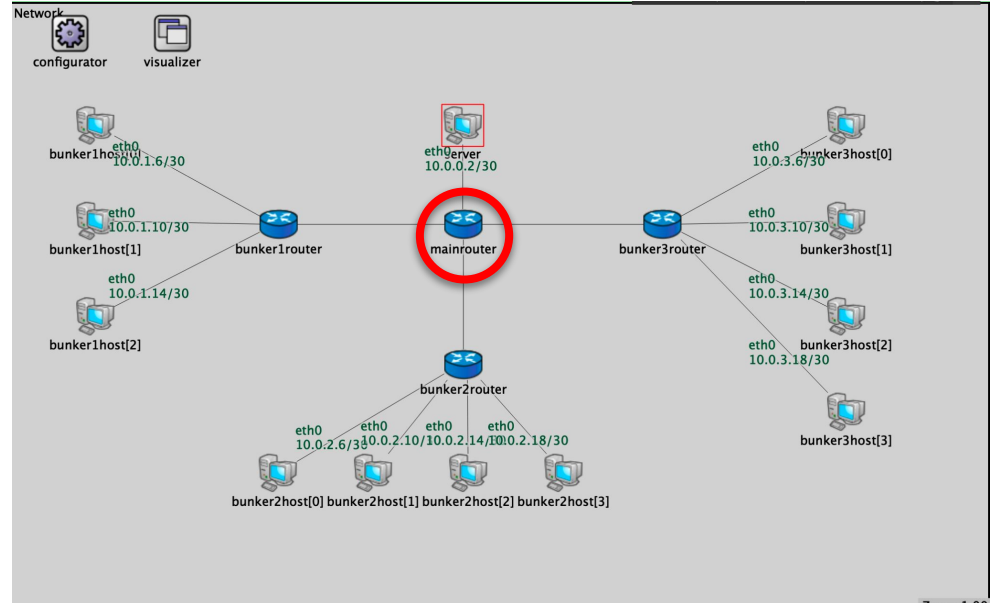
There are four different groups in the setup:

- Main Router
- Bunker Routers
- Server
- Hosts



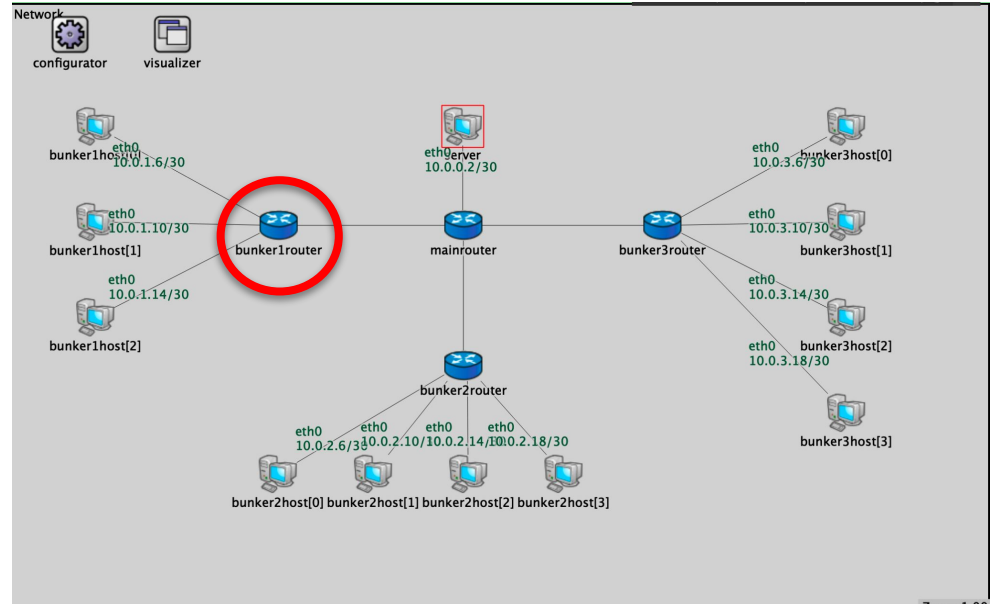
Main Router

- Connects all the bunkers
- Has direct access to the lookup server



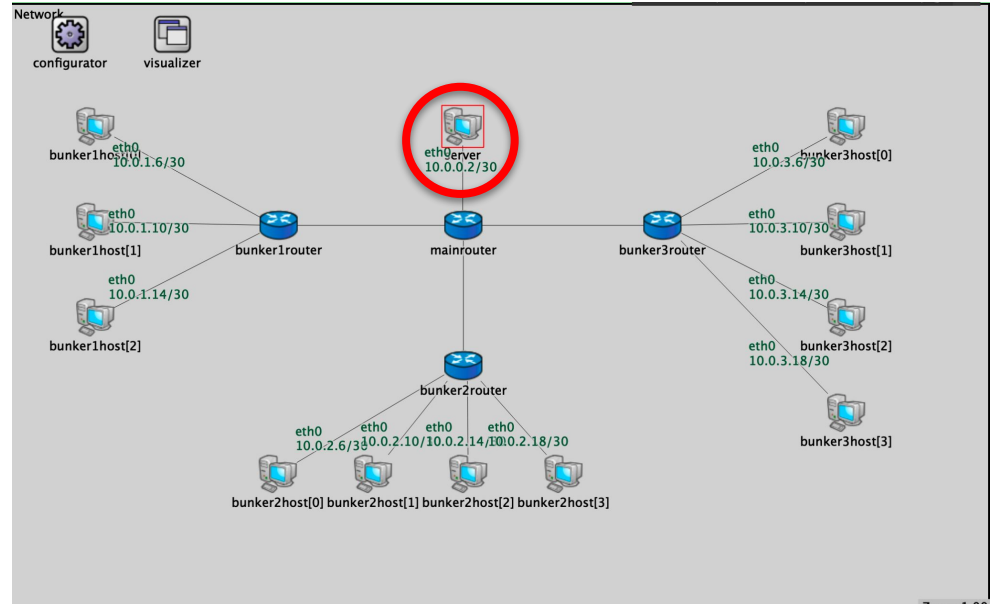
Bunker Router

- Connected to the main router
- Connected to the each host in its bunker



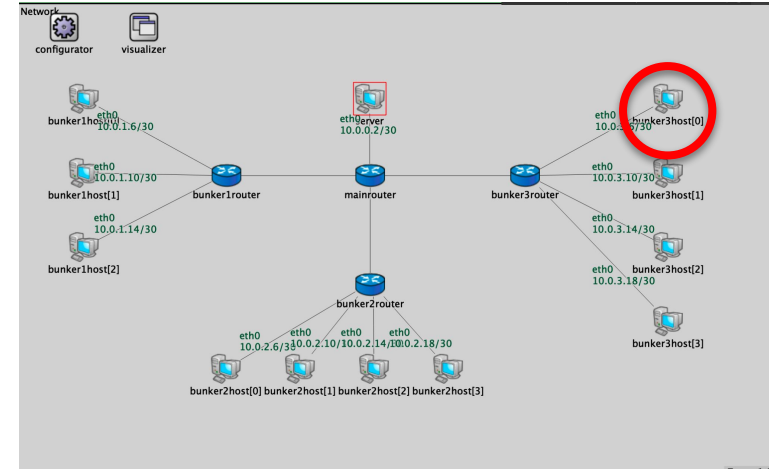
Server

- Keeps a location database of hosts in the bunkers
- Receives heartbeat packets from the hosts
- Resolves lookup requests from the hosts



Host (Client)

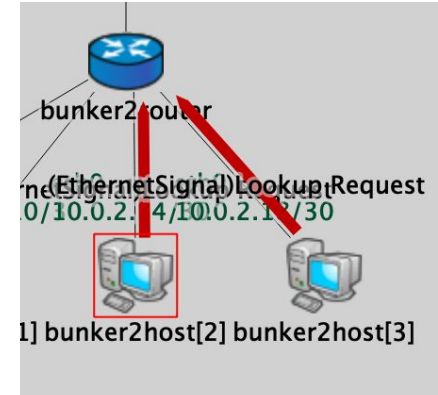
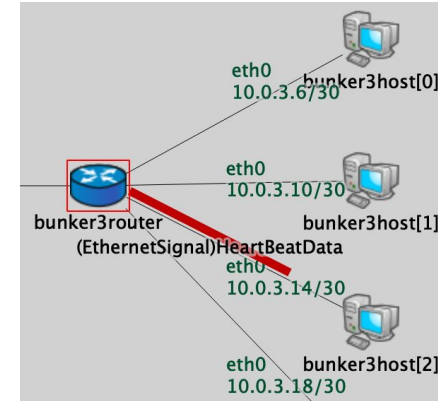
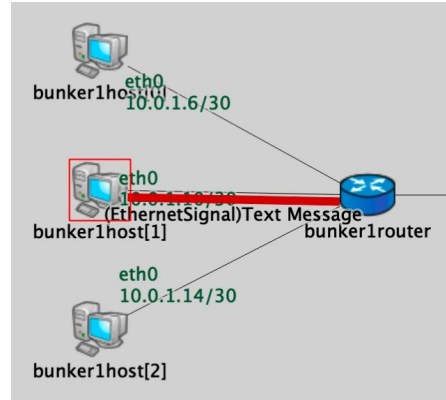
- Sends heartbeat packets to the server to provide its location
- Send text messages to other hosts
- Receives text messages from other hosts
- Sends lookup requests to the server to learn about other hosts
- Has an address book and keeps record of the learnt hosts in it



Message Types

There are four different message types in the setup:

- HeartBeat Message
- Lookup Request Message
- Lookup Response Message
- P2P Text Message



Results

