

Inf3190 Oblig

Course: inf3190 – Spring 2018

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MIP vs IPv4

In small networks, MIP will be faster, since you have less overhead due to smaller headers. It will also have more bandwidth available to payloads than Ipv4 over Ethernet. However, when the network size grows, in it's current form, MIP will require one interface per connection, which is extremely inefficient. You will also require one MIP address per interface, and when the address is only 1 byte, you can very easily run out of addresses.

Function calls

Server side

- User starts daemon:
 - Main is called.
 - `epoll_add` is called to add each interface's socket to the epoll.
- User starts ping server:
 - Main is called.
 - A packet is sent to daemon, notifying it.
- Daemon receives a packet:
 - `Epoll_wait` returns.
 - Main calls `epoll_event`, which handles the event and takes appropriate action.

Client side

- User starts daemon:
 - Main is called.
 - `epoll_add` is called to add each interface's socket to the epoll.
- User starts ping client:
 - Main is called.
 - A packet is sent to daemon, telling it to send a packet..
- Daemon receives a packet:
 - `Epoll_wait` returns.
 - Main calls `epoll_event`, which handles the event and takes appropriate action.

Executing the program

Compiling: make

Use make clean to delete binaries.

Run daemon: `./bin/mip_daemon [-h] [-d] <Unix socket> [MIP addresses, space separated]`

-h: Show help menu and exiting.

-d: Enable debug mode.

Unix socket: The path where the unix socket used to communicate with the daemon is placed.

MIP addresses: Addresses available to this daemon, which can be assigned to a

Run ping client: `./bin/ping_client [-h] <Destination host> <Message> <Unix socket>`

-h: Show help menu and exiting.

Destination host: The MIP ping server to ping.

Message: The message to send to the ping server.

Unix socket: The path where the unix socket used to communicate with the daemon is placed.

Run ping server: `./bin/ping_server [-h] <Unix socket>`

-h: Show help menu and exiting.

Unix socket: The path where the unix socket used to communicate with the daemon is placed.

Files

- daemon.c
- daemon.h
- debug.c
- debug.h
- ethernet.h
- mac_utils.c
- mac_utils.h
- Makefile

- mip.c
- mip.h
- pingclient.c
- pingserver.c
- shared.h