



Assignment-3

Dial-a-Song



Assignment Overview

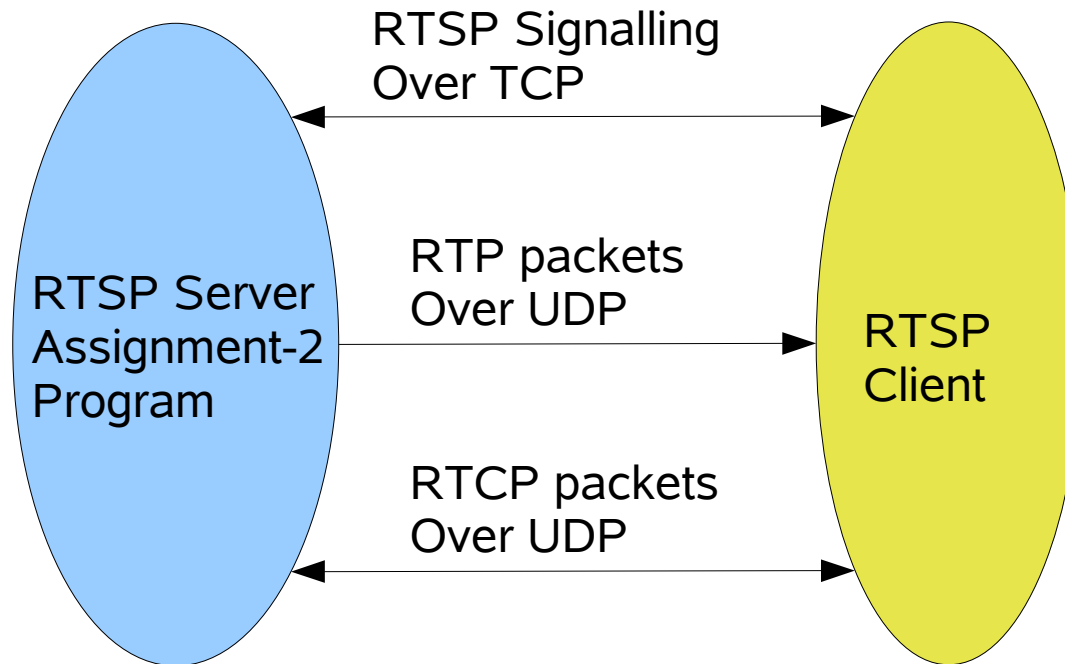
- ▶ A SIP Client need to call a specific SIP user-id that would play a song at its terminal
- ▶ Can be considered as a **Music-On-Demand** service (assignment does not require video support, but if supported could also be considered a Video-On-Demand Service)
- ▶ Using SIP for On-Demand service seems an interesting idea.
- ▶ Components Involved:
 - A SIP softphone (Example: kphone, X-lite - Can be freely downloaded from Internet)
 - A RTSP server (already UP and running at Netlab)
 - `rtsp://130.233.154.184:8554/song1.wav`
 - A program(assignment program) that interacts with both these components



Program Requirements

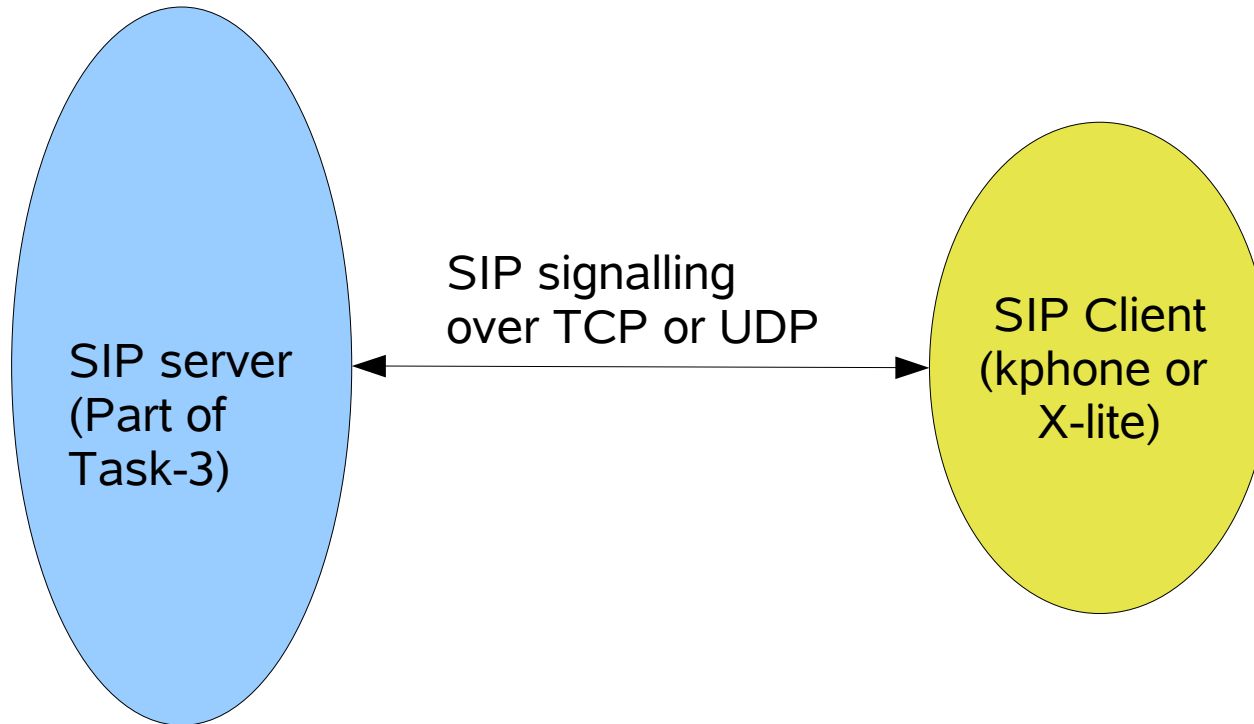
- ▶ Must be able to handle requests from a chosen SIP client
 - Your program need to pose as a SIP server
 - SIP Clients support both signalling over TCP and UDP
 - Choose one, that you prefer to implement (TCP or UDP)
- ▶ Requests that need to be responded by the program are
 - REGISTER, INVITE, ACK and BYE
- ▶ Getting the media stream from the RTSP server. (would use the Assignment-2 RTSP Client)

Step-1 Overview (Assignment-2)



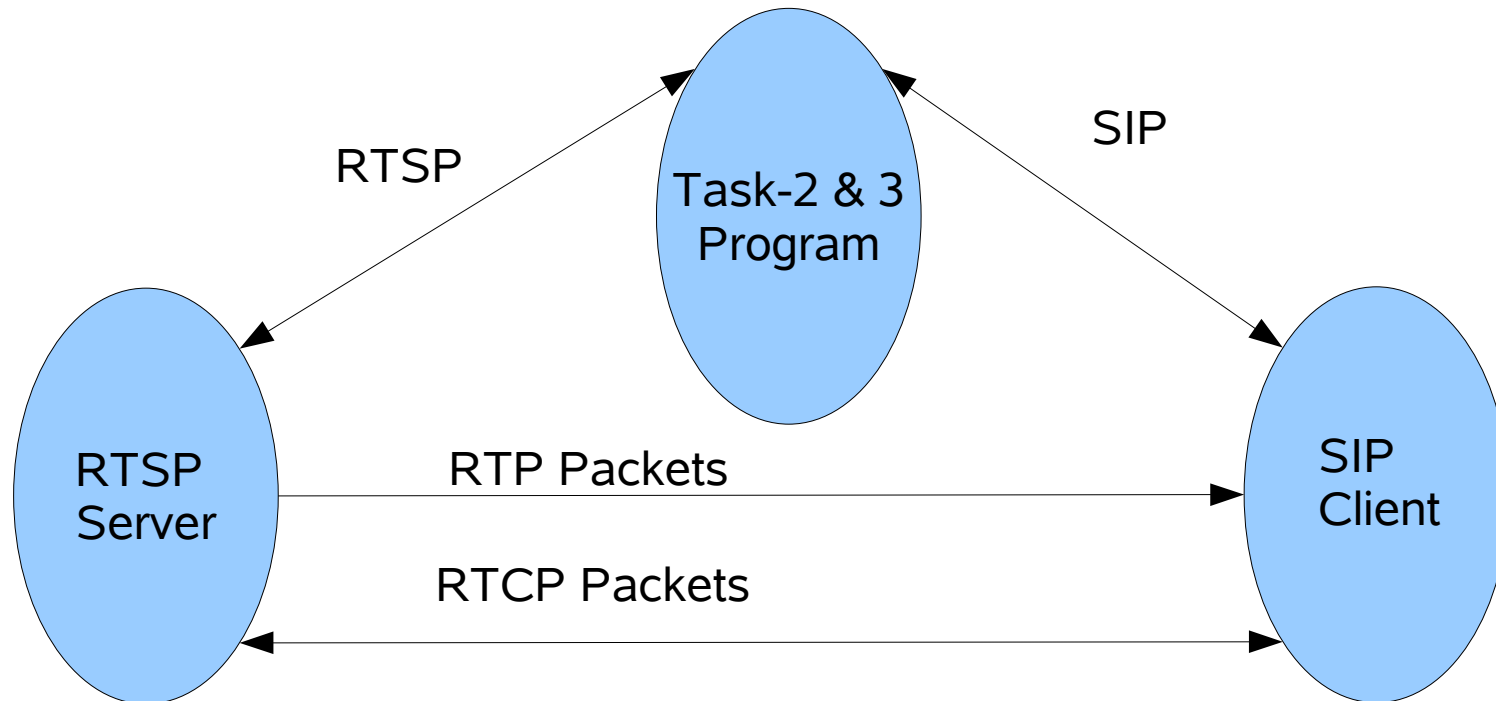
- Hints:
1. DESCRIBE Response contains SDP description (SDP parameters carry media format details)
 2. SETUP Request and Response carries address parameters

Step-2 Overview



- Program responds to SIP requests and establishes the session
Hints: Media format in SIP response need to be based on what RTSP server could provide

Delivering Media Data



- ▶ In Assignment-2, the media data was received by RTSP client.
- ▶ But in Assignment-3, the media data destination need to be redirected



Program Execution Flow

- ▶ SIP client calls our Final Assignment-3 program.
 - SIP user-id sip://song1@address.com
- ▶ Extracts the user-id. (song1)
- ▶ Initiates RTSP session with the media server (but the media destination need to be modified)
 - **rtsp://130.233.154.184:8554/song1.wav**
- ▶ After receiving PLAY response from RTSP Server, send 200 OK to the SIP client.
- ▶ Now the media is played at the SIP Client