STUN/TURN using PHP in Despair (STuPiD)

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Motivation

▸ End-to-end streams with TCP-characteristics are required
  - End-to-end secure chatting
  - File Transfer

▸ InBand Bytestreams (IBB) have limitations
  - Bandwidth limitation

▸ Home network is behind a NAT
  - Not as simple to penetrate for TCP
  - Symmetric NAT is an open issue

▸ Relay solutions not widely deployed
  - XMPP: SOCKS5 servers
  - SIP: TURN-TCP

Deployment of Relays

▶ High bandwidth costs
- No business model

▶ Not easy to deploy for a user
- Requires external server with root access
- Requires knowledge about Linux/UNIX
- Requires knowledge about the server software

▶ External web space with PHP is available
- Install a PHP script to get a relay

Example: Sender

```
POST /stupid.php?chid=i781hf64-0 HTTP/1.0
User-Agent: Example/1.11.4
Accept: */*
Host: example.org
Connection: Keep-Alive
Content-Type: application/octet-streamContent-Length: 11

Hello World

HTTP/1.1 200 OK
Date: Sun, 05 Jul 2009 00:20:34 GMT
Server: Apache/2.2
Cache-Control: no-cache, must-revalidate
Expires: Sat, 26 Jul 1997 05:00:00 GMT
Vary: Accept-Encoding
Content-Length: 0
Keep-Alive: timeout=1, max=400
Connection: Keep-Alive
Content-Type: application/octet-stream
```

Example: Receiver

```
GET /stupid.php?chid=i781hf64-0 HTTP/1.0
User-Agent: Example/1.11.4
Accept: */*
Host: example.org
Connection: Keep-Alive

HTTP/1.1 200 OK
Date: Sun, 05 Jul 2009 00:21:29 GMT
Server: Apache/2.2
Cache-Control: no-cache, must-revalidate
Expires: Sat, 26 Jul 1997 05:00:00 GMT
Vary: Accept-Encoding
Content-Length: 11
Keep-Alive: timeout=1, max=400
Connection: Keep-Alive
Content-Type: application/octet-stream

Hello World
```