TURN Server Networking options
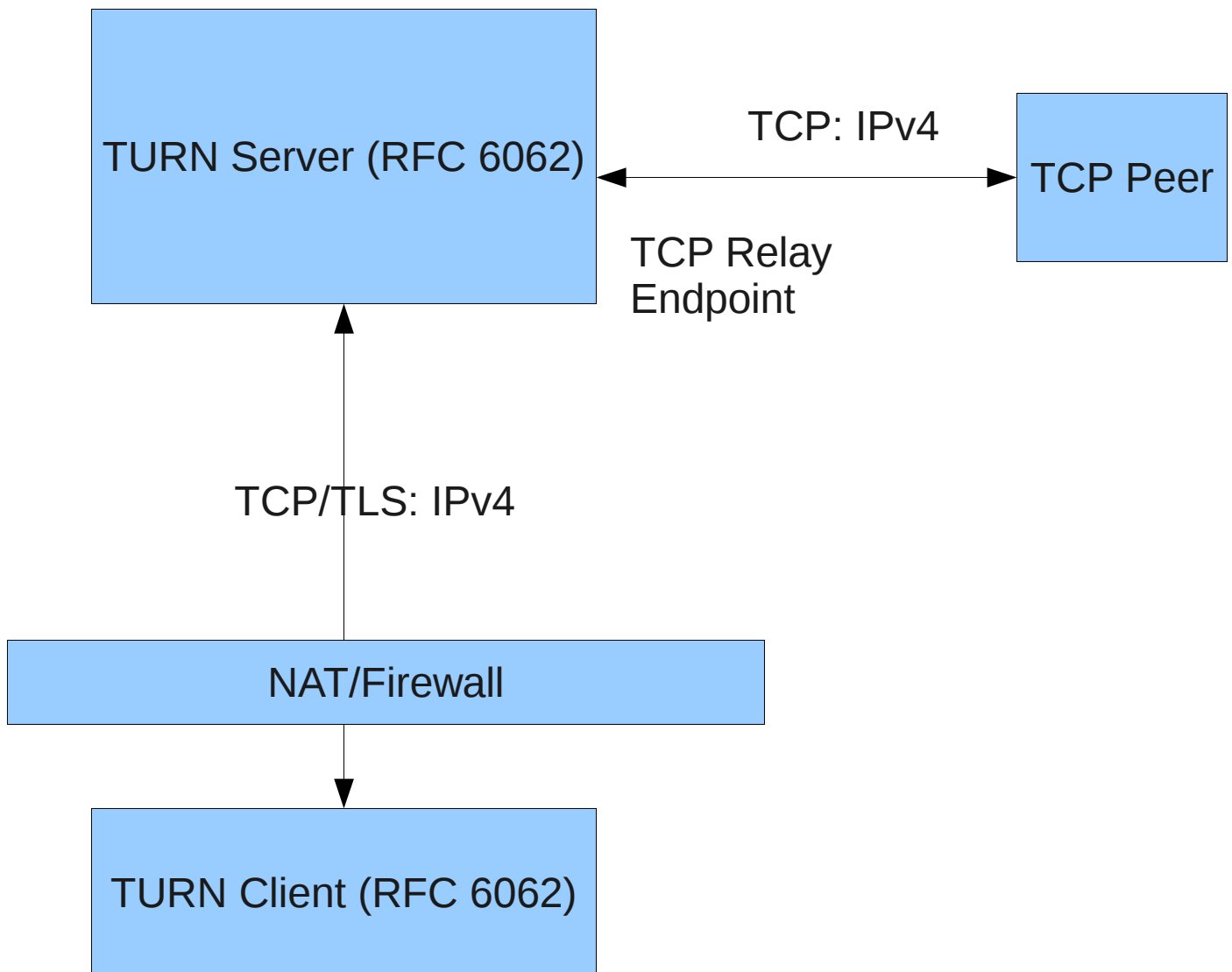## Use cases supported by the TURN Server

1. RFC 5766 classic use case
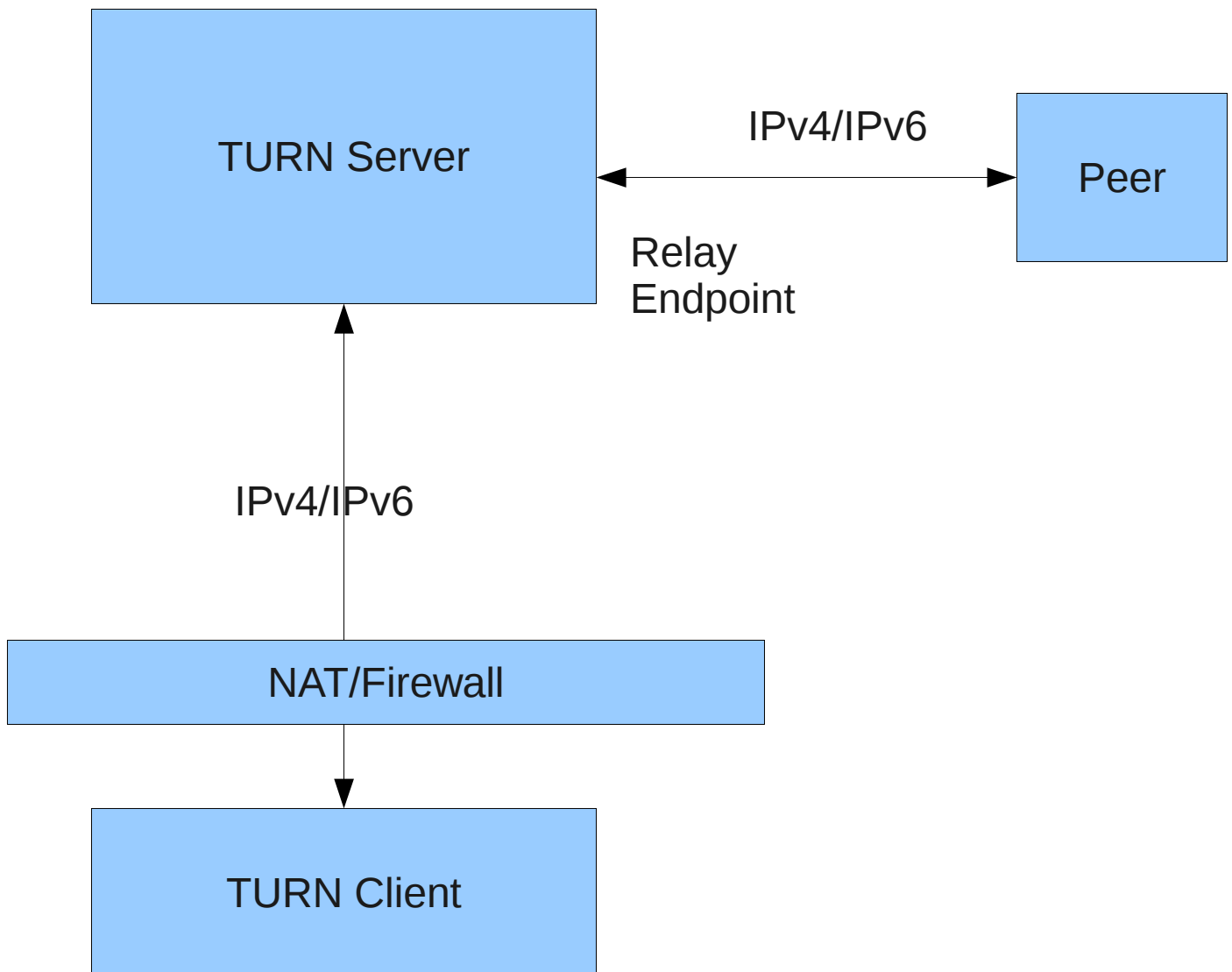
TURN Server (RFC 5766)

UDP: IPv4

UDP Peer

UDP Relay
Endpoint

UDP/TCP/DTLS/TLS: IPv4

NAT/Firewall

TURN Client
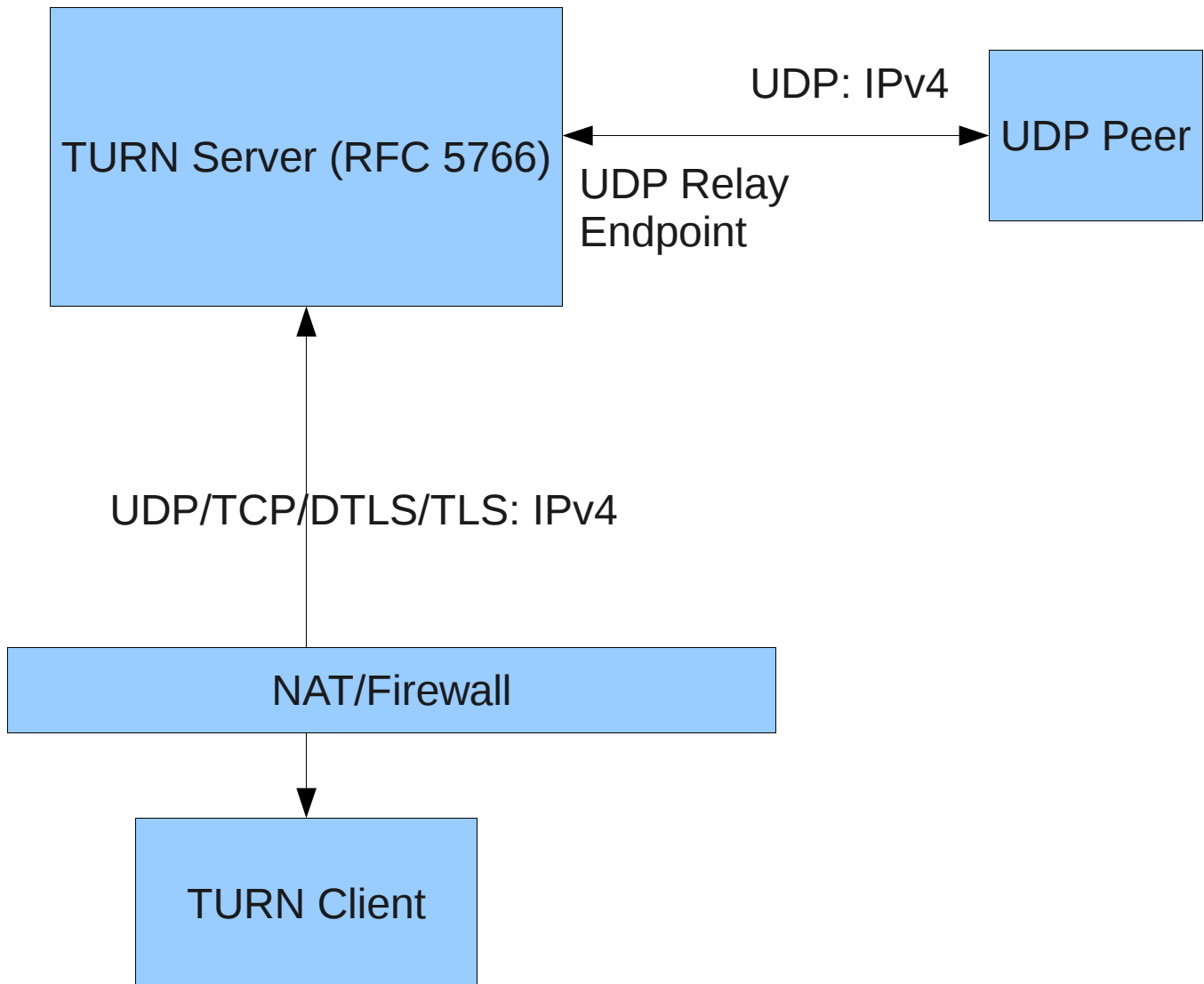
Note: DTLS is this picture is an "experimental" extension, not defined by any RFC

2. TCP relaying use case: RFC 6062

```
┌──────────────────────────────┐                      ┌──────────────┐
│                              │      TCP: IPv4        │              │
│  TURN Server (RFC 6062)      │◄────────────────────►│   TCP Peer   │
│                              │                      │              │
│                              │   TCP Relay          └──────────────┘
│                              │   Endpoint
└──────────────────────────────┘
                ▲
                │ TCP/TLS: IPv4
                │
     ┌──────────────────────────┐
     │      NAT/Firewall        │
     └──────────────────────────┘
                │
                ▼
     ┌──────────────────────────┐
     │  TURN Client (RFC 6062)  │
     └──────────────────────────┘
```

3. IPv6 extension: RFC 6156

```
┌─────────────────────────────┐                          ┌──────────┐
│                             │         IPv4/IPv6        │          │
│                             │ ◄──────────────────────► │   Peer   │
│        TURN Server          │                          │          │
│                             │      Relay               └──────────┘
│                             │      Endpoint
└──────────────┬──────────────┘
               ▲
               │
               │  IPv4/IPv6
               │
┌──────────────┴──────────────┐
│        NAT/Firewall         │
└──────────────┬──────────────┘
               │
               ▼
┌─────────────────────────────┐
│        TURN Client          │
│                             │
└─────────────────────────────┘
```

4. Client-to-client connectivity

Relay
Endpoint 1

Relay
Endpoint 2

TURN Server

May use different
IP for relaying,
e.g. 137.254.16.113

Public IP and port, e.g. 66.165.176..15:3478

IPv4/IPv6
UDP/TCP/DTLS/TLS

IPv4/IPv6
UDP/TCP/DTLS/TLS

NAT/Firewall 1

NAT/Firewall 2

TURN Client 1

TURN Client 2
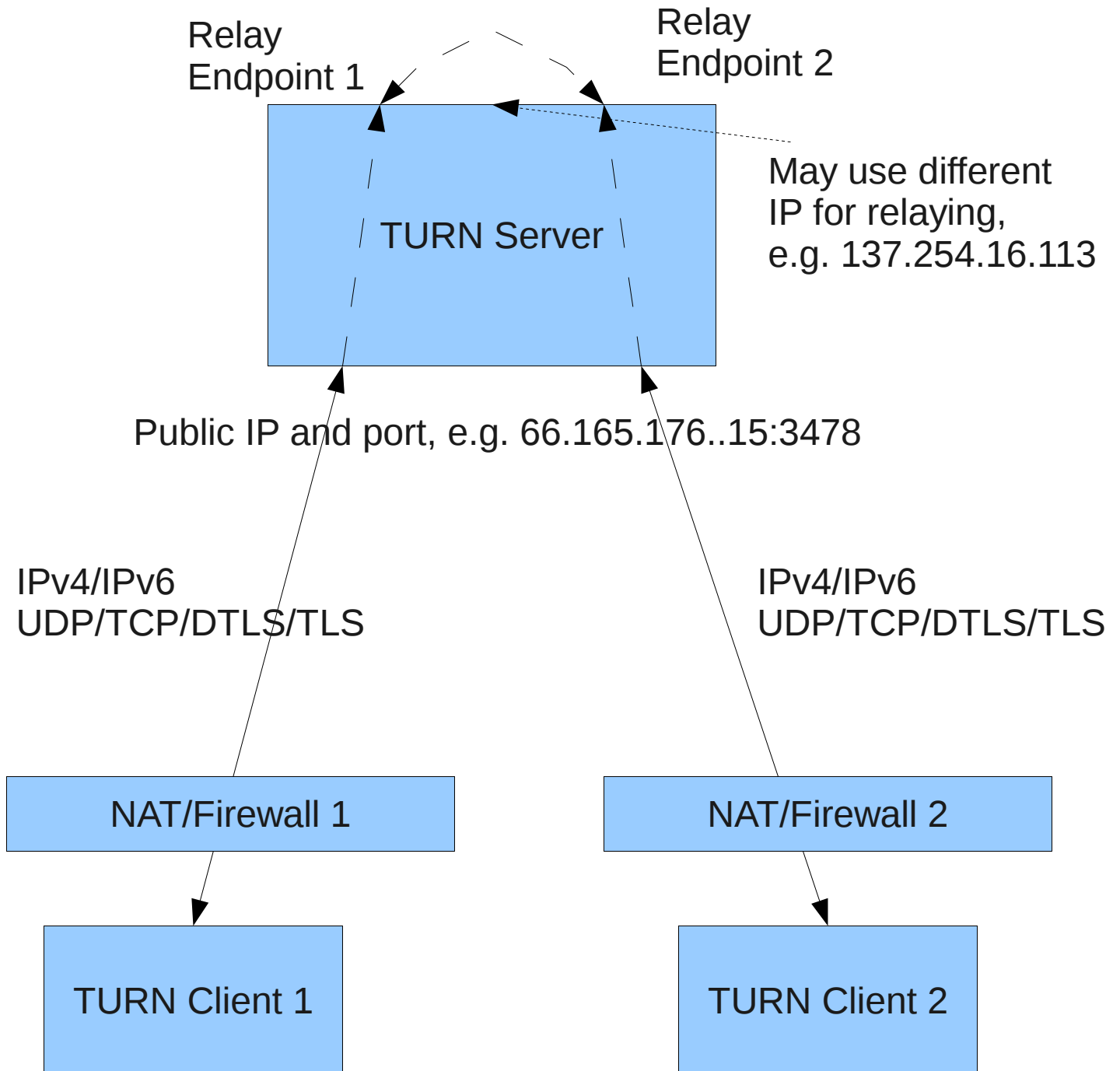
5. TURN as an UDP/TCP traffic Gateway

Public Internet/Cloud

Internal company
network

NAT/Firewall

Relay
Endpoint

TURN Client ↔ TURN Server ↔ Peer

Public IP:port,
e.g. 65.165.176.15:3478

Private relay IP:port,
e.g. 172.17.17.107:3478

6. TURN Server behind NAT

Public Internet/Cloud

TURN Client 1

Private IP:port, e.g.
172.17.17.107:3478

NAT/Firewall

TURN Server

TURN Client 2

Public IP:port,
e.g. 65.165.176.15:443
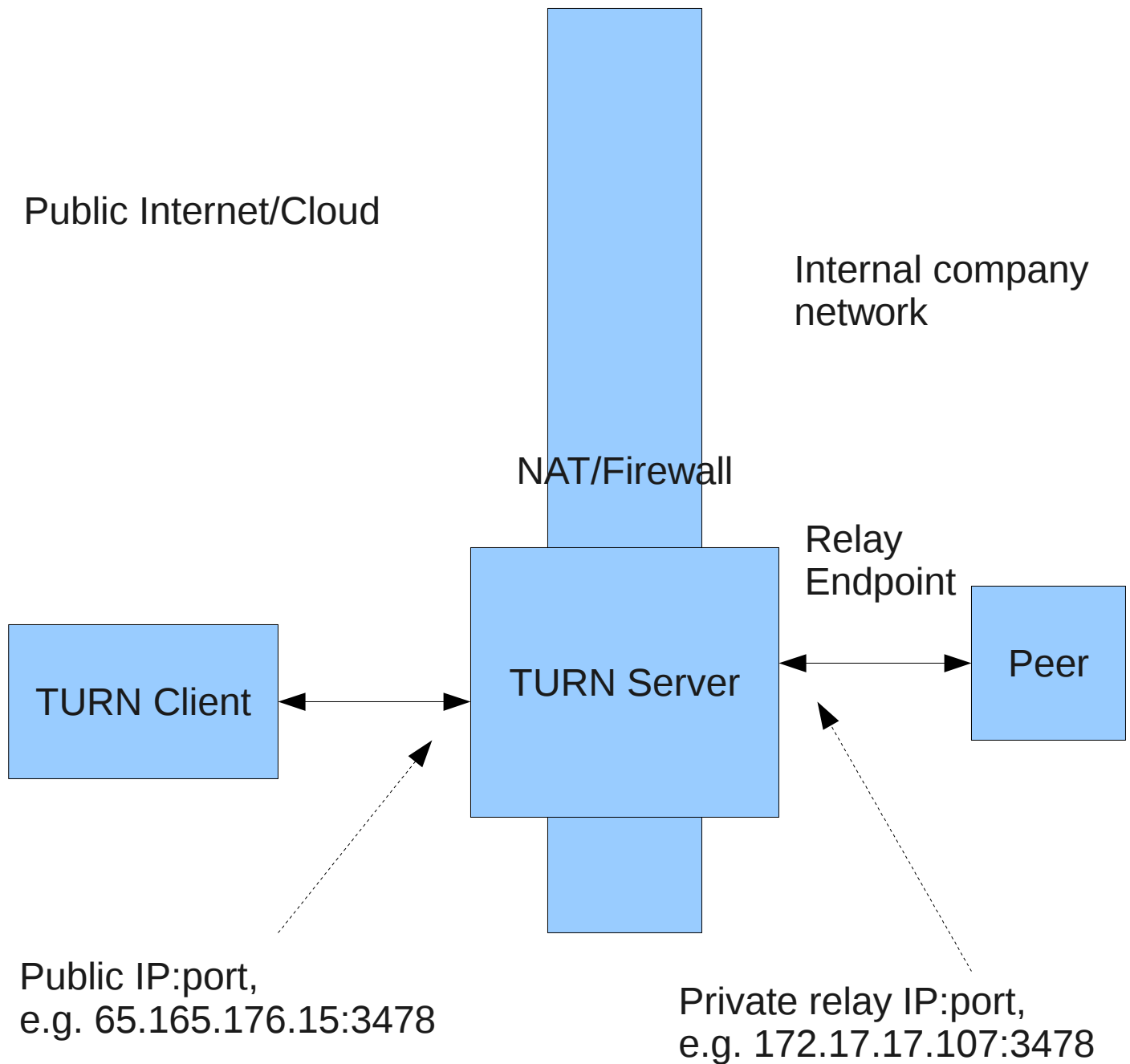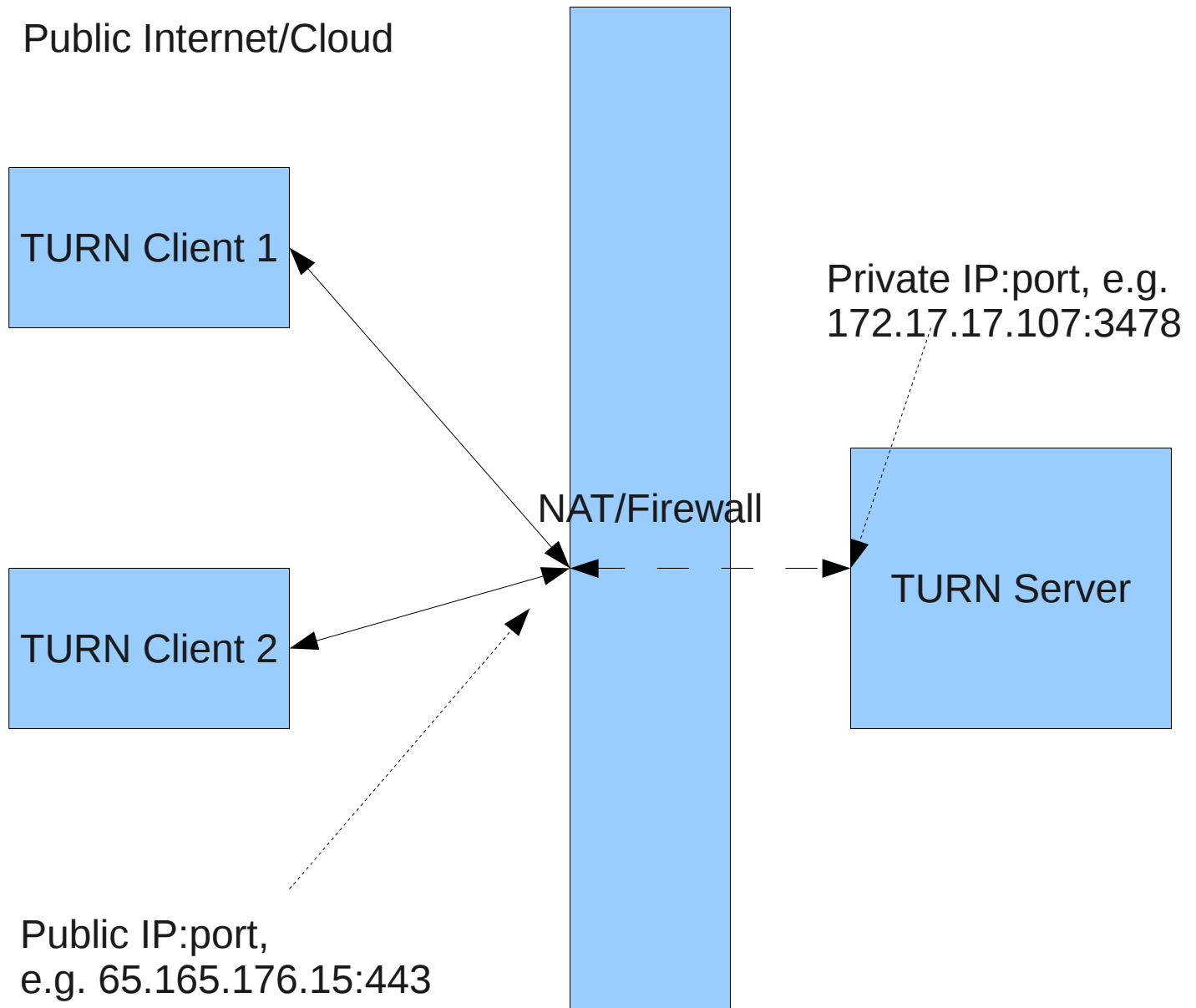
Note: -X TURN Server option can be used to set the public IP.
In this case, the same single private IP must be used for
listening and for relaying.

For latest stable TURN Server version, see the project page http://code.google.com/p/rfc5766-turn-server/