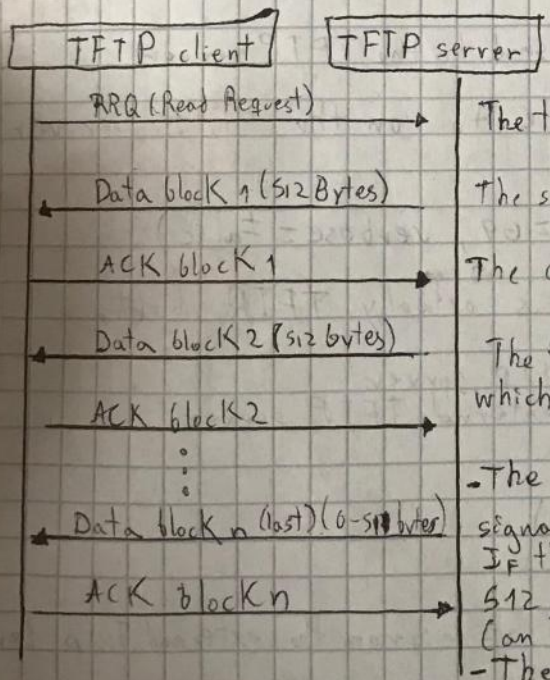
26/10/2018

Redes 2

- TFTP: es un protocolo para transferencia de archivos, implementado en el tope de los protocolos UDP/IP. Usando el puerto 69
- Trivial File Transfer Protocol:
- Formally: Request por Comments (RFC) 1350
  → Sersa cuando la autenticación del usuario y la visibilidad del directorio no son requeridos.

  Su simplicidad radica en que solo tiene 6 tipos de mensajes y sólo permitiendo el envío de un mensaje a la vez.

TFTP RFC 1350



The transfer is initiated by a read request packet (RRQ)

The server responds with the first data block of 512 bytes

The client acknowledges the reception of the first data block

The transfer continues with the next data block which is acknowledge by the client.

- The last data packet contains 0-511 bytes. This signals the end of transfer to the client. If the entire data file to be transfered is divided by 512, the last packet contains 0 data bytes (an empty packet)
- The transfer is completed by the last acknowledgement.

class InternalTftp : internally serves files using the trivial file transfer Protocol

class InternalTftp (ip_address = None, port = 0, verbose = False)

- ip_address (string) ip address for the internal TFTP server to use
- port (integer) port for the internal TFTP server
- verbose (boolean) flag to turn on additional messaging

- get_address (relative_host = None)
  returns the IPv4 address of this server.

- get_file (src, dest)
  Download a file from the tftp server to local_path
  src (string) - Source file path on the tftp_server
  dest (string) - Destination path (on your machine) to copy the TFTP file

- Kill()
  Kills the Internal Tftp Server

- put_file (src, dest)
  upload a file from src to dest on the tftp server (path)
  Src (string) - Path to the local file to send to the TFTP server
  dest (string) - Path to put the file to on the TFTP Server

class External Tftp (ip_address, port=69, verbose=False)
Defines a external Tftp object, which is actually TFTP client.

- ip_address (string) ip of the TFTP server
- port (integer) port to the external TFTP server
- verbose (boolean) flag

- get_addrees (relative_host = None)

- get_file (src, dest) download a file from the external Tftp server

- put_file (src, dest) uploads a file to the tftp server

DNS uses UDP or TCP so es en layer 4

Manual TFTP

TFTPy es una implementación de TFTP solamente en python.

Requerimientos: Está en Python 2 pero lo soporta muy bien en Python 3

Instalación: sudo pip3 install tftpy

Cliente: (uno muy simple)

```
import tftpy
client = tftpy.TftpClient('tftp.digitaltorque.ca', 69)
client.download('remote_file name', 'local-filename')
```

Servidor: (uno muy simple)

```
import tftpy
server = tftpy.TftpServer('/tftpboot')
server.listen('0.0.0.0', 69)
```