



DETI

Riddles Play

Simple example of communication using sockets

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Summary

- *Characterization of the problem*
- *Kind of implementation*
 - *TCP protocol*
 - *UDP protocol*
- *Interaction diagrams*
 - *TCP protocol*
 - *UDP protocol*

Characterization of the problem

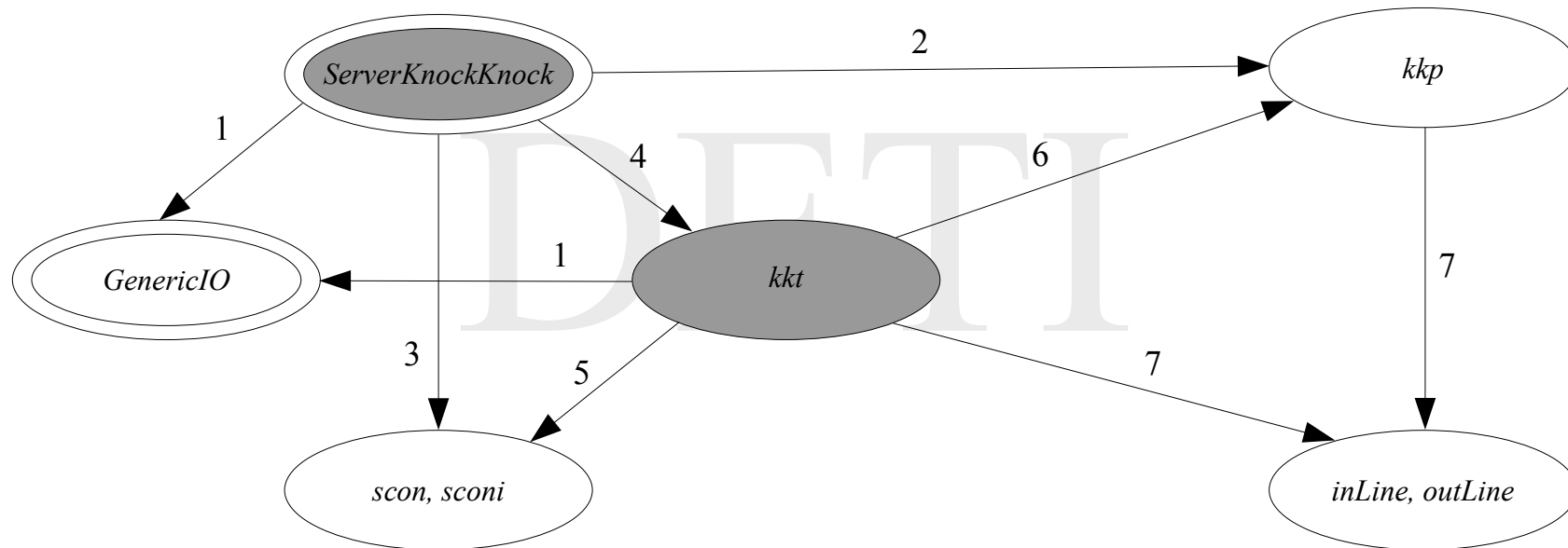
- it simulates a child guessing game between two persons involving a *question – answer* interaction
- the aim of the first partner, who initiates the challenge, is to surprise the second with a double meaning (sounding) word
- two implementations of the *client – server* communication model using the first variant of *request serialization* are presented: the *server* is the first partner and the *client* is the second
- the interchange is based on *message passing* using the TCP protocol, the first implementation, and the UDP protocol, the second.

Kind of implementation

- *RiddlesPlay1* – exchange of objects based on text lines through a TCP communication channel
- *RiddlesPlay2* – incomplete version of the client-server model (there is no distinction between the listening and the communication ports on the server side
datagrams are used to convey message exchange (UDP protocol)
objects based on text lines are converted to byte arrays and vice-versa.

Interaction diagram (TCP protocol) - 1

Server side

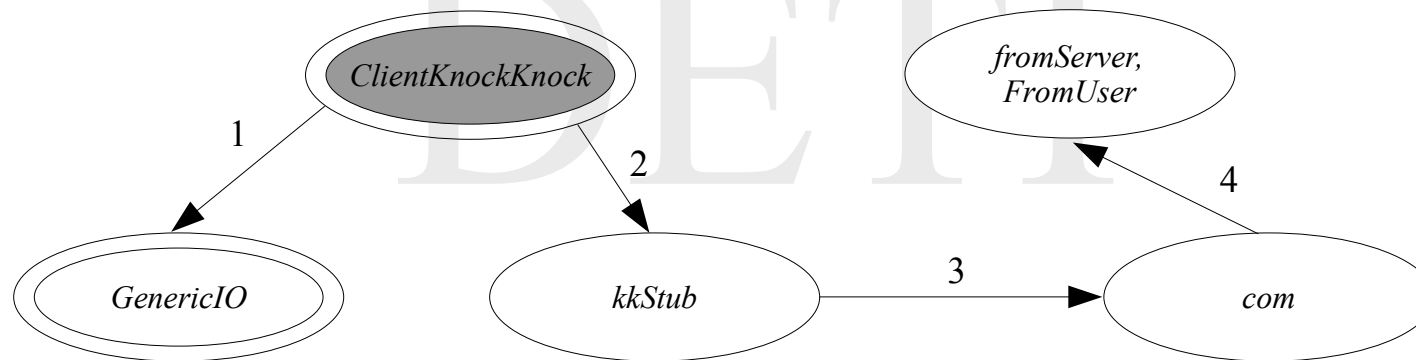


1 – `writelnString`
2 – `instantiate`
3 – `instantiate`, `start`, `accept`
4 – `instantiate`, `start`, `join`

5 – `readObject`, `writeObject`, `close`
6 – `processInput`
7 – `instantiate`

Interaction diagram (TCP protocol) - 2

Client side

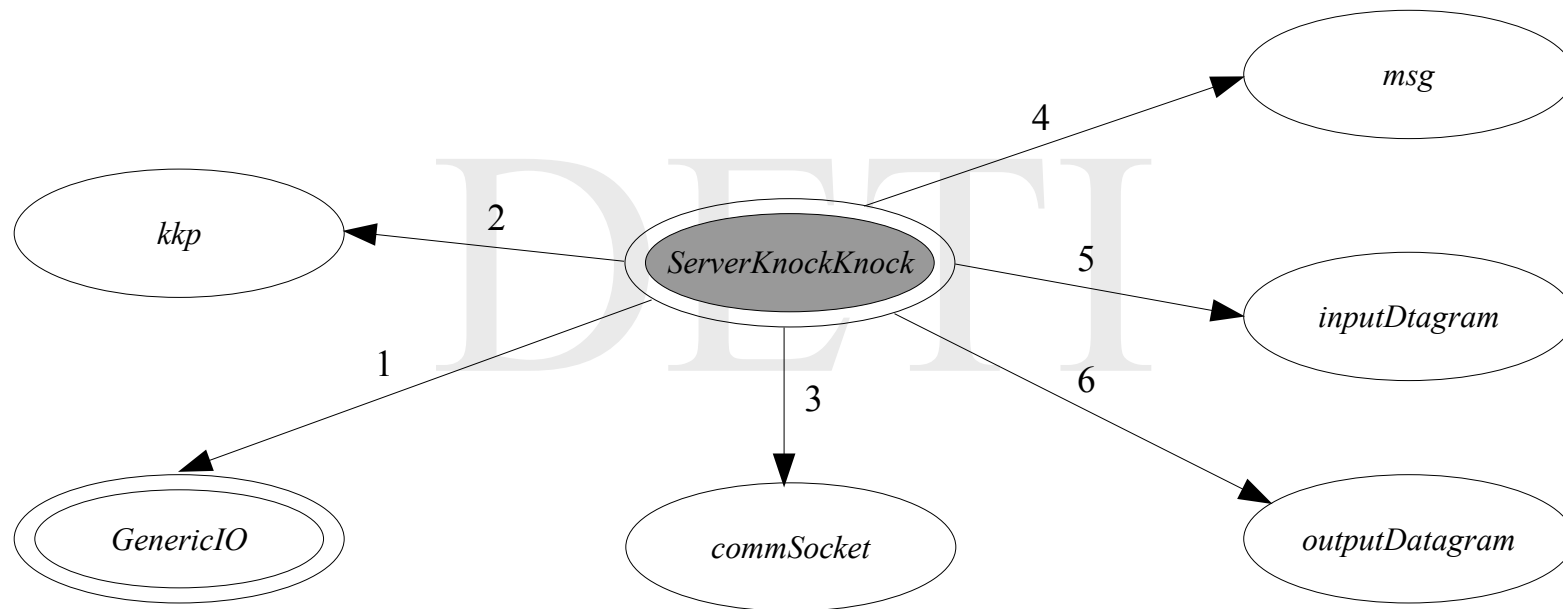


1 – writeLnString, readLnString
2 – instantiate, exchange

3 – instantiate, open, readObject, writeObject, close
4 – instantiate

Interaction diagram (UDP protocol) - 1

Server side

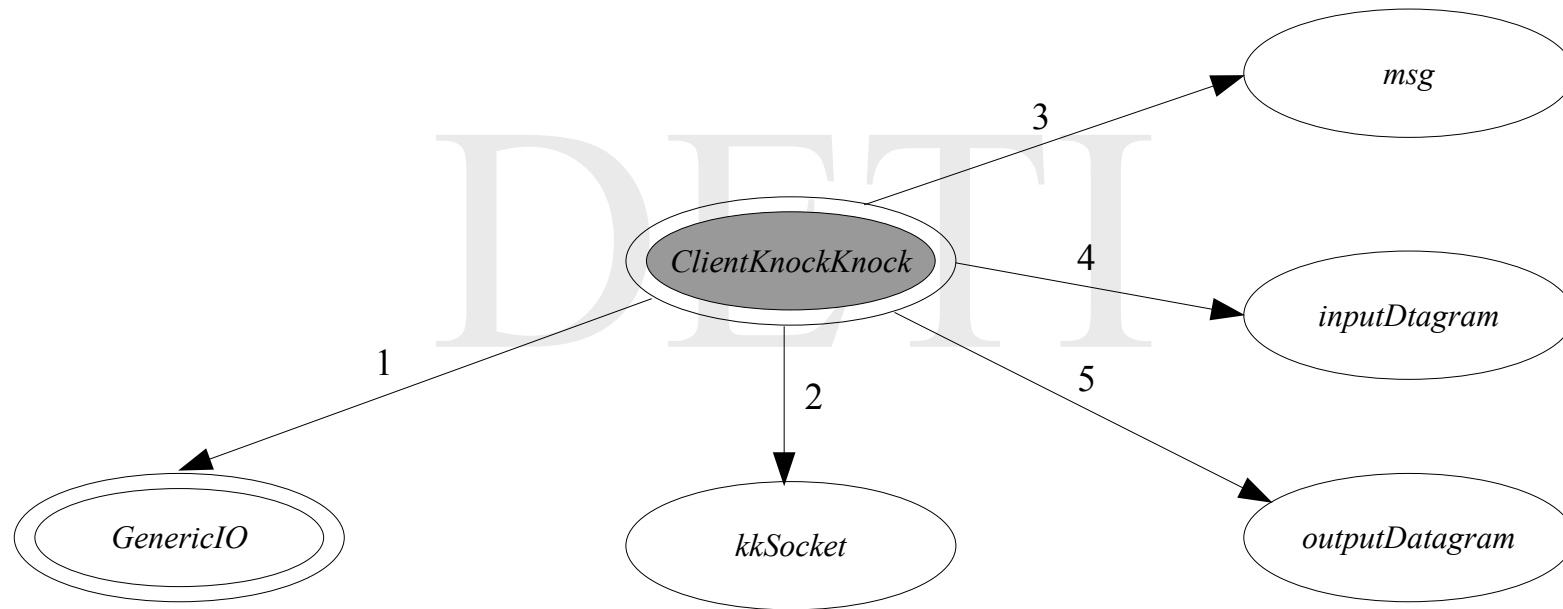


1 – writelnString
2 – instantiate, processInput
3 – instantiate, send, receive

4 – instantiate, getString, getByteArray
5 – instantiate, getAddress, getPort, getData
6 – instantiate

Interaction diagram (UDP protocol) - 2

Client side



1 – writelnString, readlnString
2 – instantiate, send, receive
3 – instantiate, getString, getByteArray

4 – instantiate, getData
5 – instantiate