

Remote Method Invocation

Note Title

4/10/2007

QUIZ 3:

Consider:

- Java RMI - specific to Java - not a standard
- CORBA - low level comm. protocol - IIOP
- SOAP - uses XML transport (HTTP)

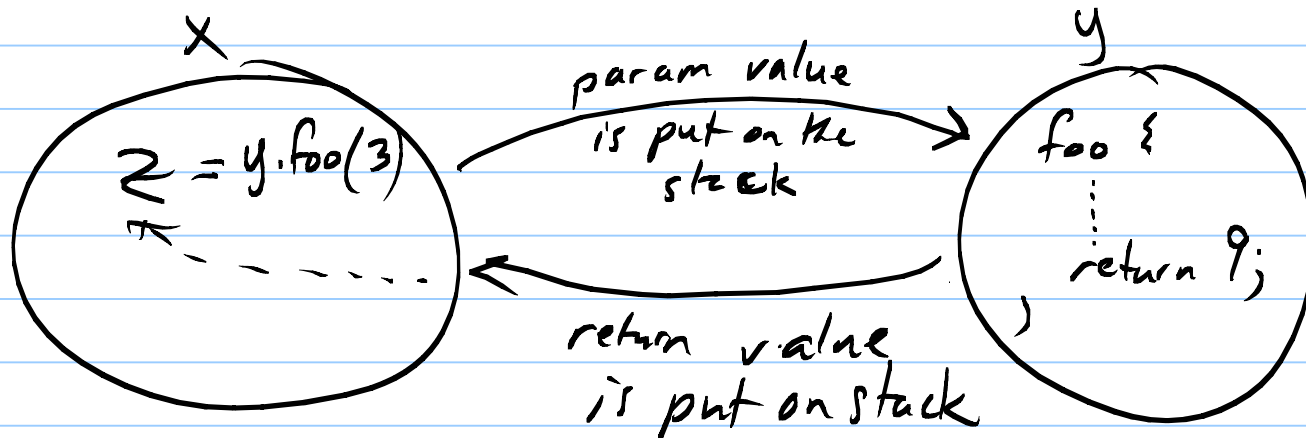
- 1) What is the essential thing that all 3 of these provides? *All provide remote method invocation.*
- 2) What, specifically, is different about the way that each of them provides this?
(Write one sentence for each)

★ WRITE YOUR NAME & LAB SECTION AT THE TOP.

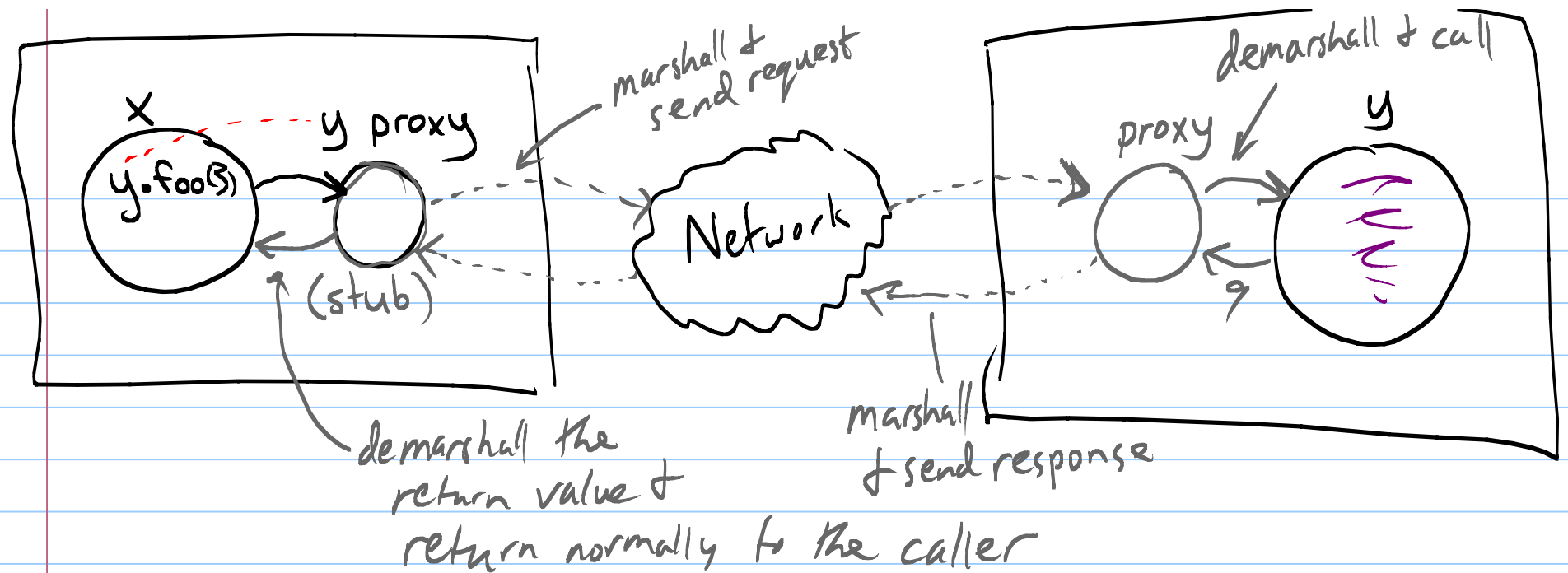
Motivation:

TCP/IP — comm by sending/receiving messages
Different programming model

Standard way of doing things:
(in one process)



What happens if x & y are on different machines?
1) No shared stack or heap — Can't refer to y!
Can't put param on stack!



Remaining issues:

① Format of messages

{ Java RMI - Java specific
CORBA - IIOP (Standard)
SOAP - over HTTP using XML (text)

② Finding & getting references to remote objects. (Knowing what you can call on them.)

Registry:

Known service (widely publicized location)

- Lookup by name → returns an IP address, port
- Provide interface definitions
 - Java Interfaces (Java RMI)
 - IDL - interface definition language (CORBA)
 - WSDL - SOAP's interface spec.

Java RMI

- Start registry
- Server starts up & registers itself
- Client contacts the registry to get a remote reference.
- Further remote references can be passed