8

Software Architectures: Clients, Servers, Brokers, and Components

File Transfer Server and Clients

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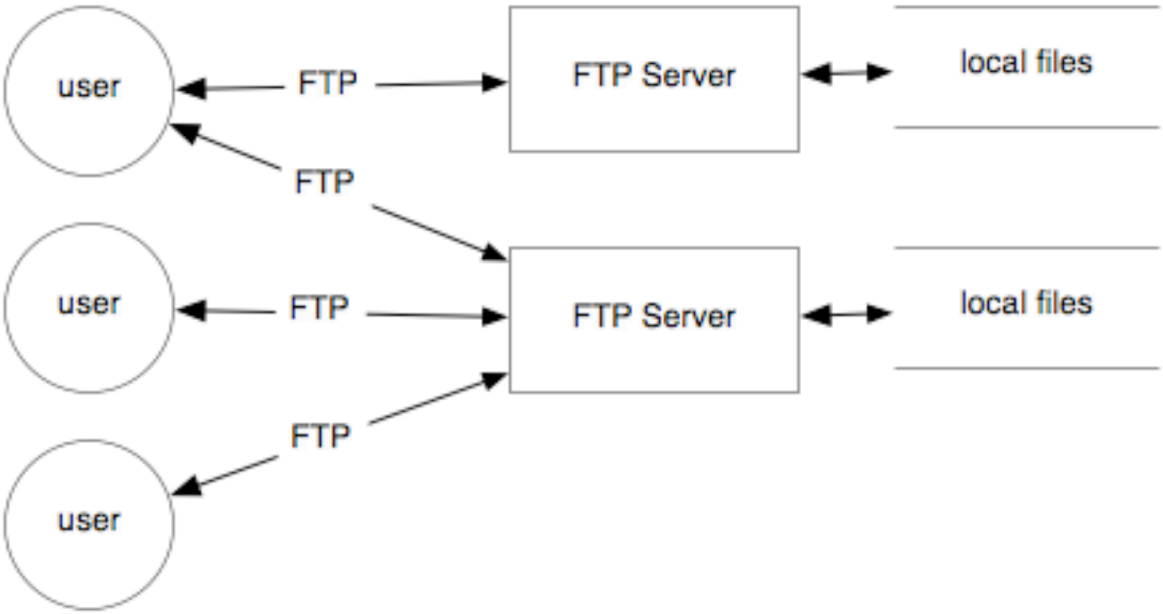

File Transfer Client and Server Architecture

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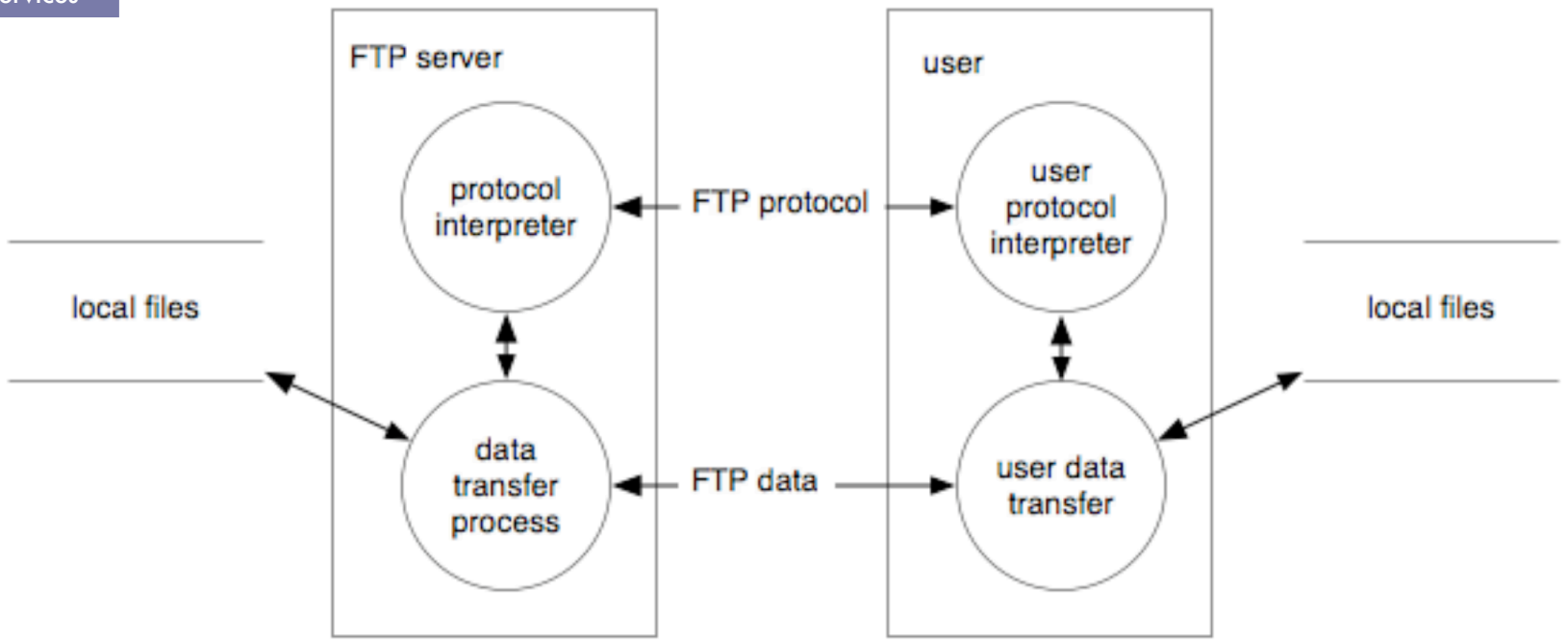

Some File Transfer Protocol Commands

USER	identify user
PASS	supply password
CWD	set directory
MODE	set data transfer mode
RETR	retrieve data (on data channel)
STOR	stored data (from data channel)
ABOR	abort current transfer
LIST	list available files

…*etc. etc.*

Some File Transfer Protocol Replies

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```
200 Command okay.
500 Syntax error, command unrecognized.
501 Syntax error in parameters or arguments.
202 Command not implemented, superfluous
502 Command not implemented.
503 Bad sequence of commands.
```

... *etc. etc.*

Mail Servers and Clients

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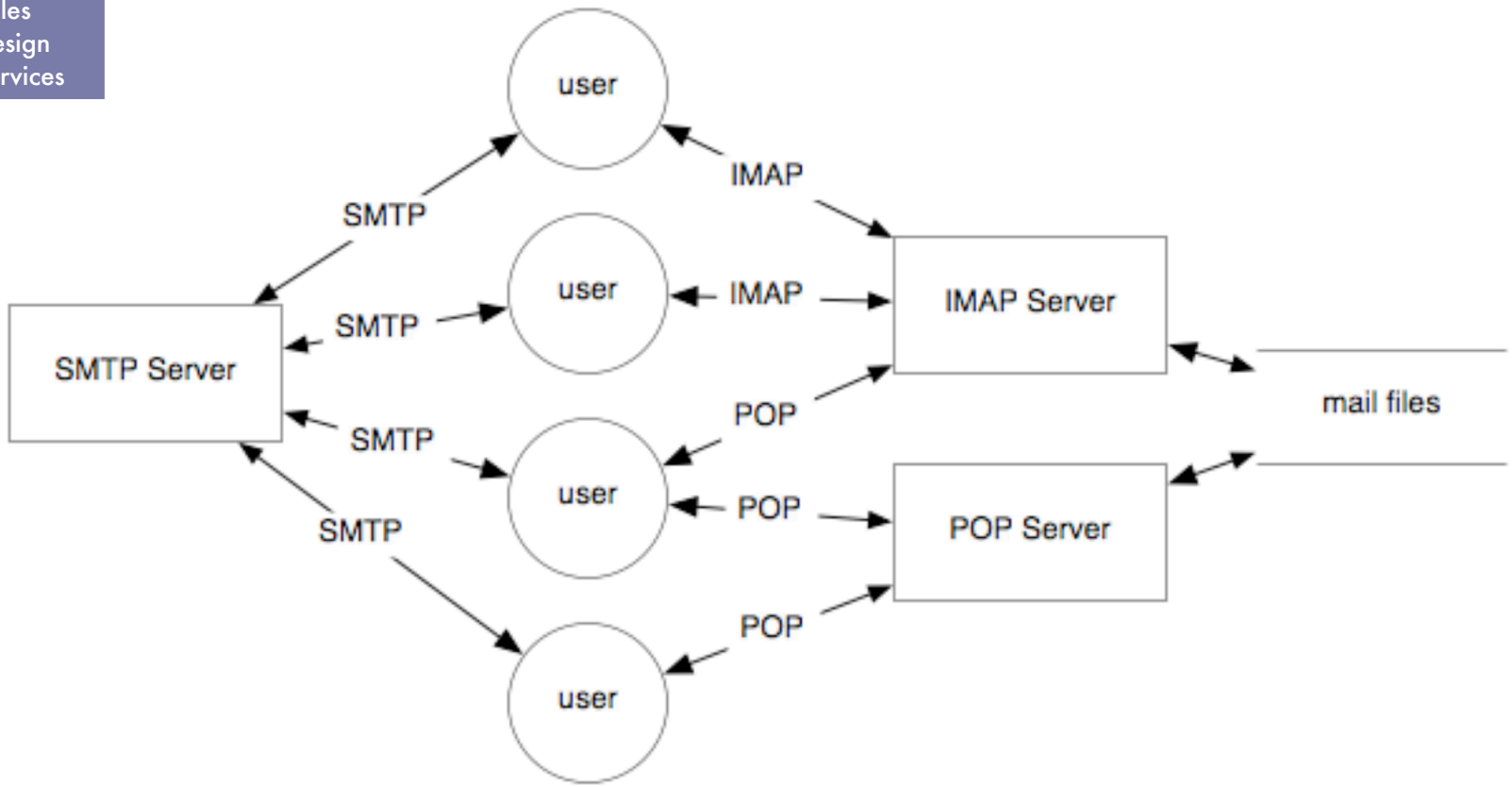

Some Simple Mail Transfer Commands and Responses


```
HELO  identify sending system
MAIL  identify sending user
RCPT  identify receiving user(s)
DATA  begin transmitting message
QUIT  end of conversation
```

```
500 line too long
250 ok
```

Corporate Client/Server Evolution

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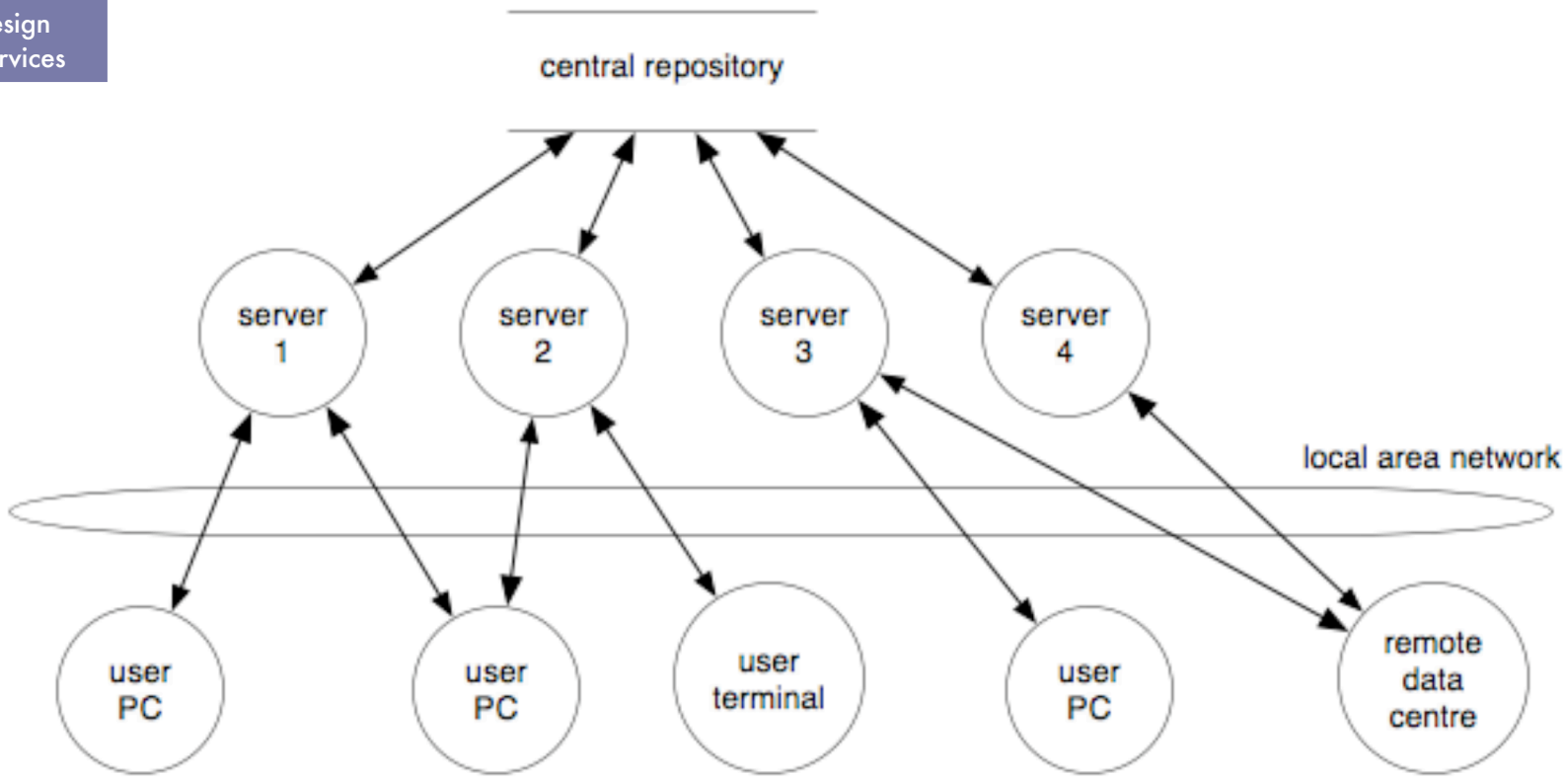

Layered Architecture with Clients and Servers

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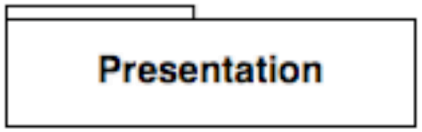
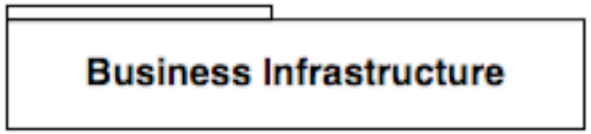
GUI windows, reports, speech interface, HTML, XML, php, JSP, Javascript, etc.



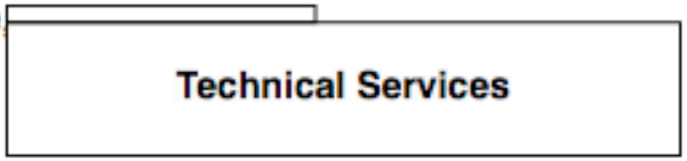
handle presentation requests, workflow, session state, window and page transition, data consolidation for display

handle application layer requests, domain rules, domain services, possibly across several applications

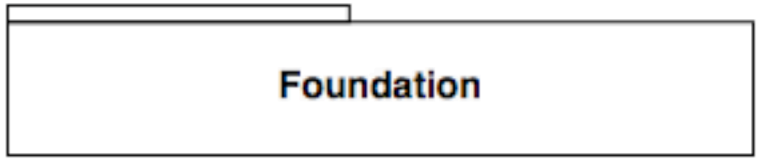
business middleware, general low-level business services: currency conversion, rate calculation,



technical frameworks: testing, object persistence, security, high-level text services, object middleware



technical libraries, utilties, data structures, containers, threads, math, file, database, network I/O.



Client Side and Server Side 1: Presentation Client

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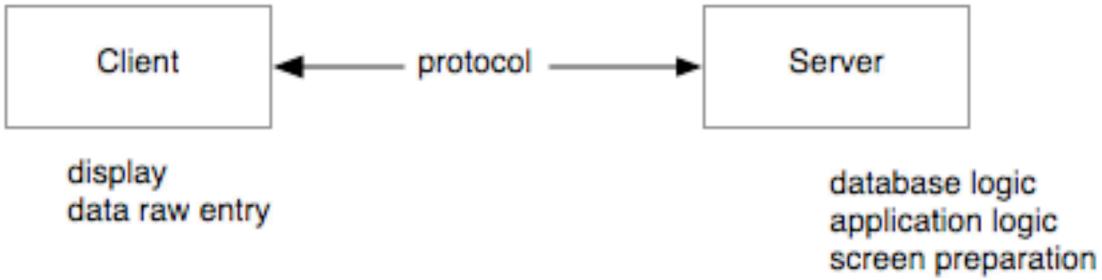

Client Side and Server Side 2: Distributed Logic

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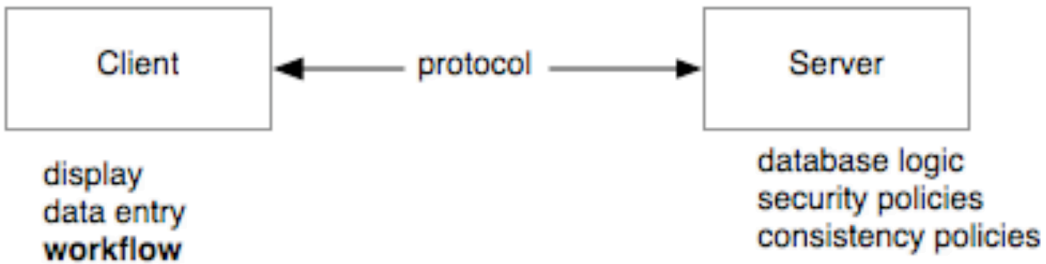

Client Side and Server Side 3: Remote Data Management

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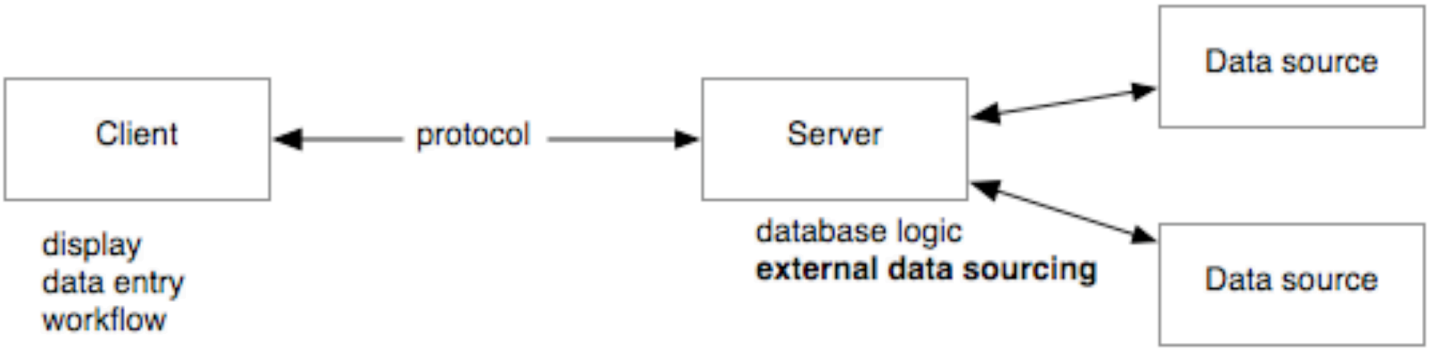

Client Side and Server Side 4: Service Based Distributed Data

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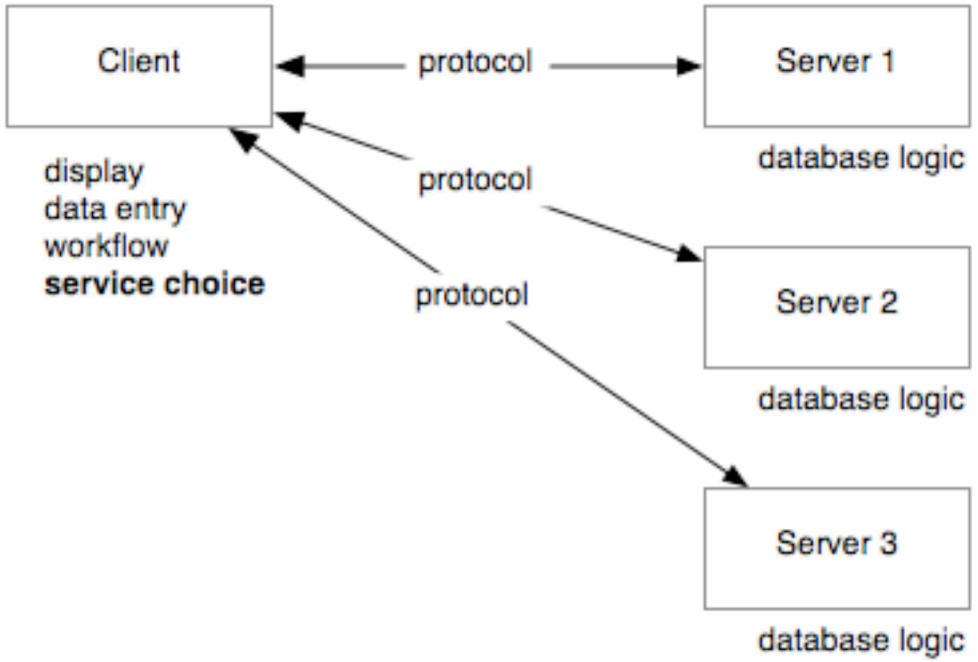

Direct Service Broker

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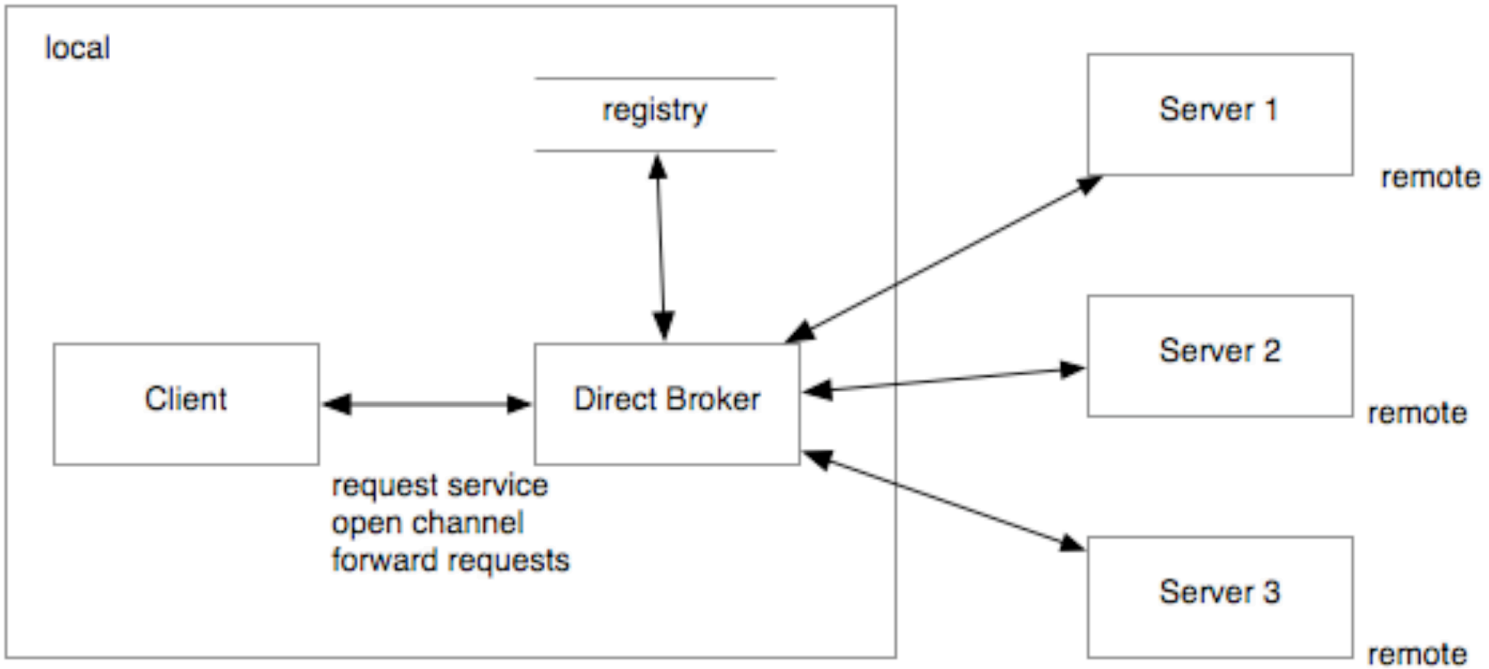

Indirect Service Broker

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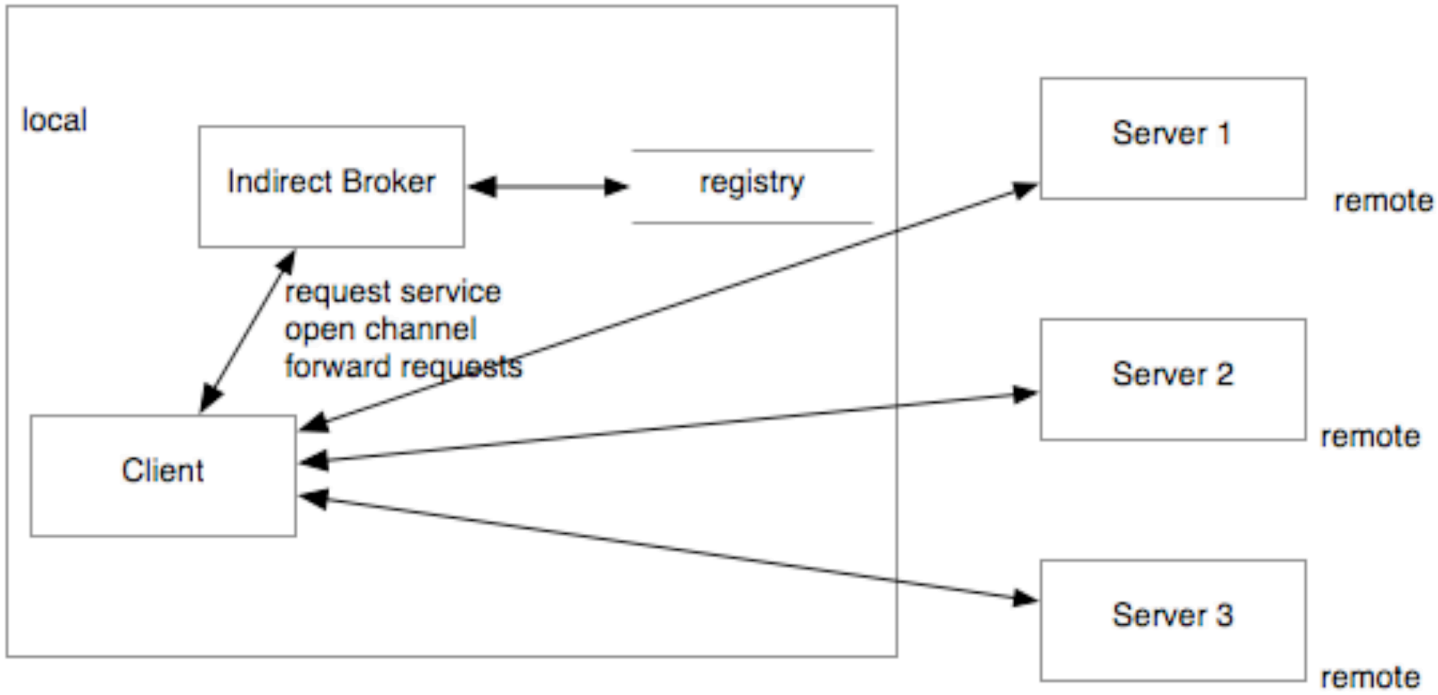
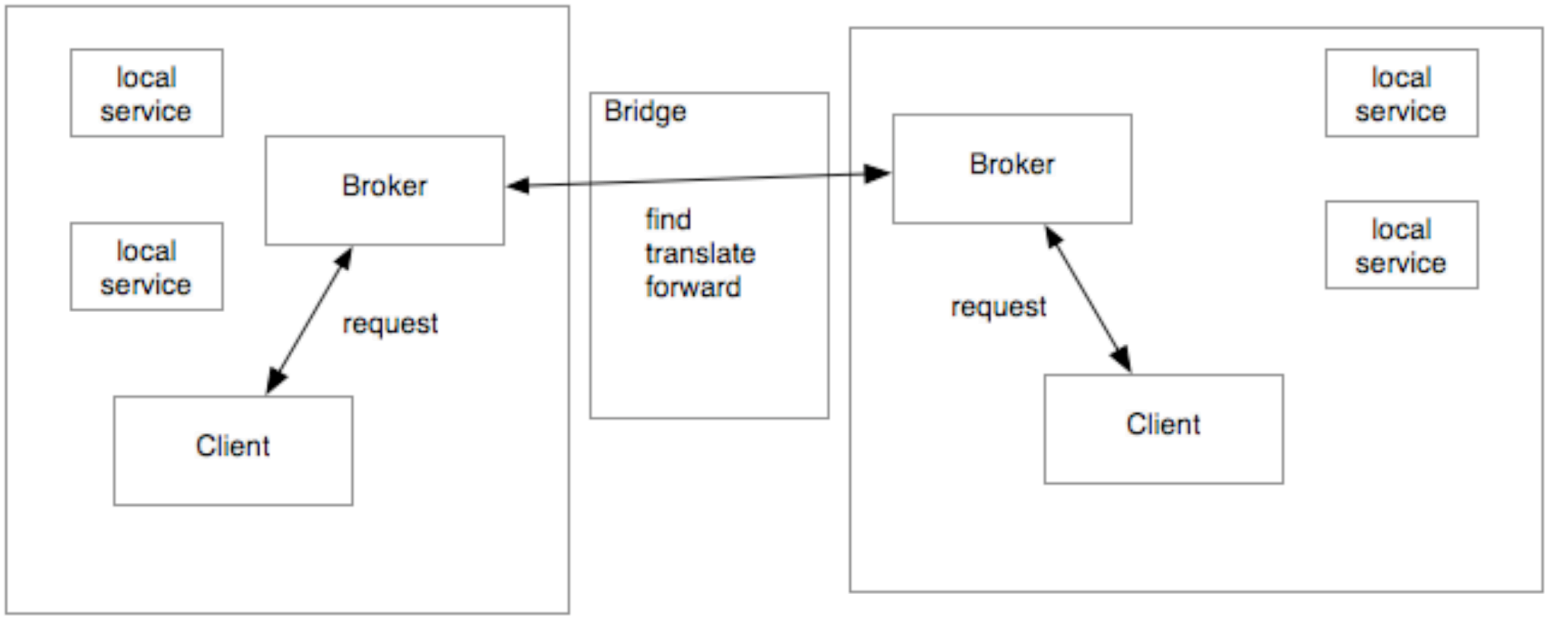


Service Bridging

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