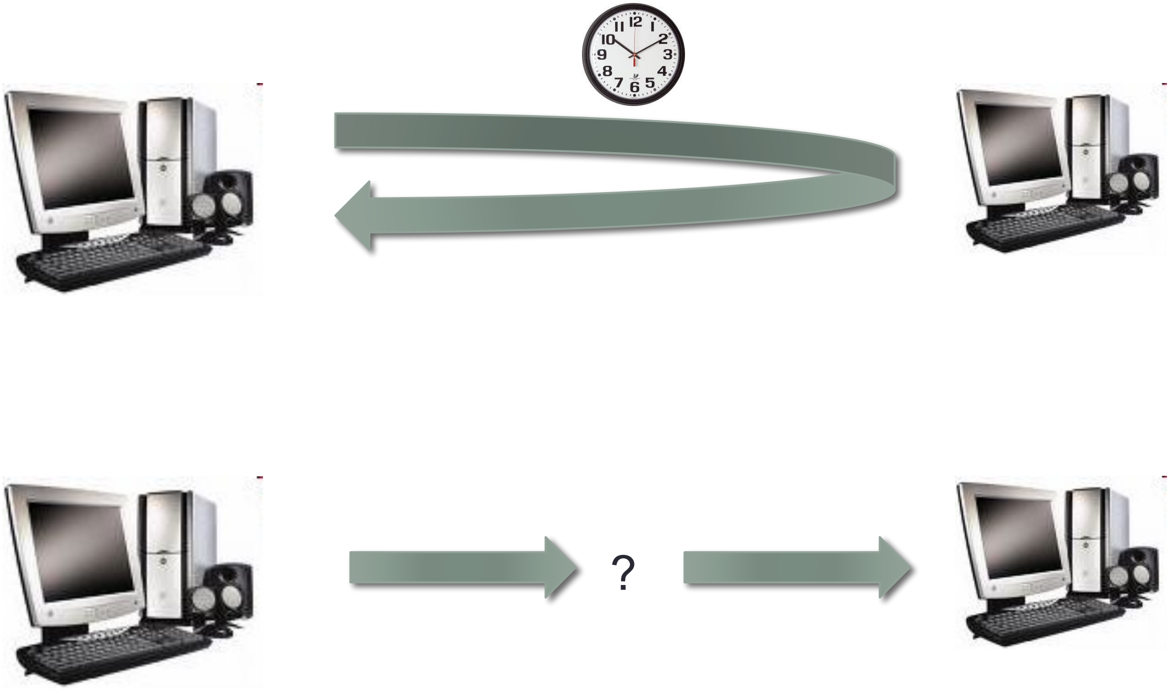
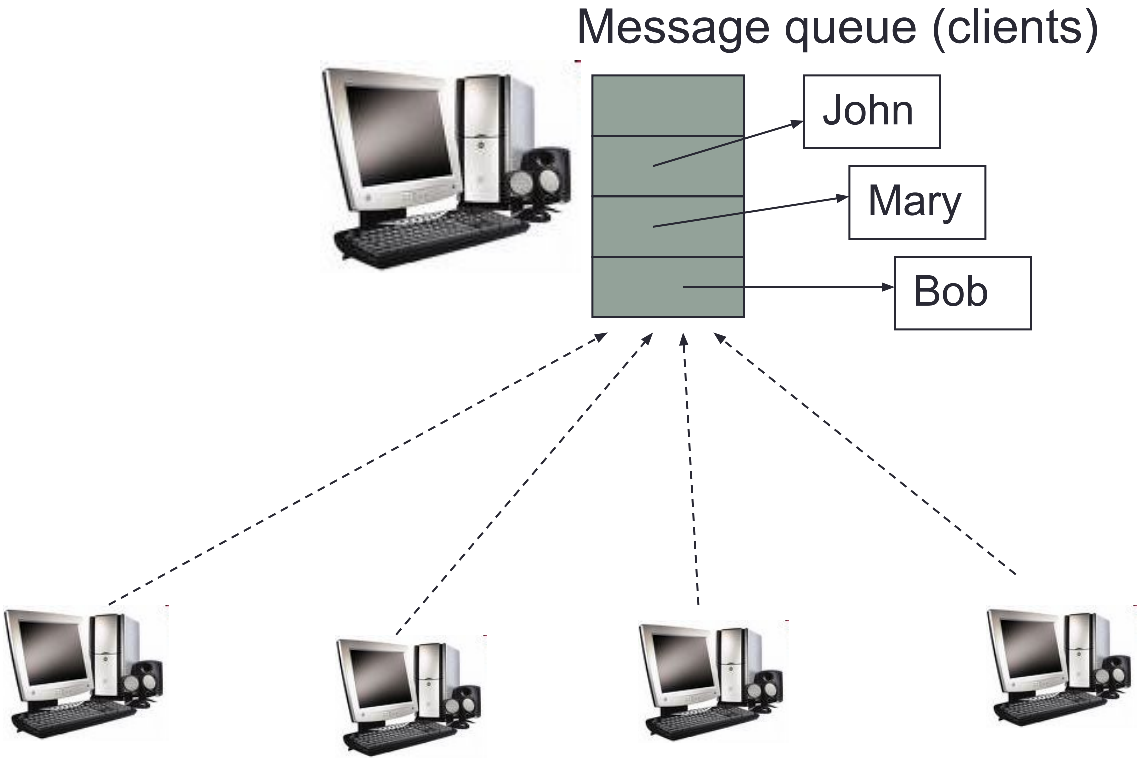
Estilos arquitectónicos basados en eventos

Synchronous P2P
vs Event-based P2P



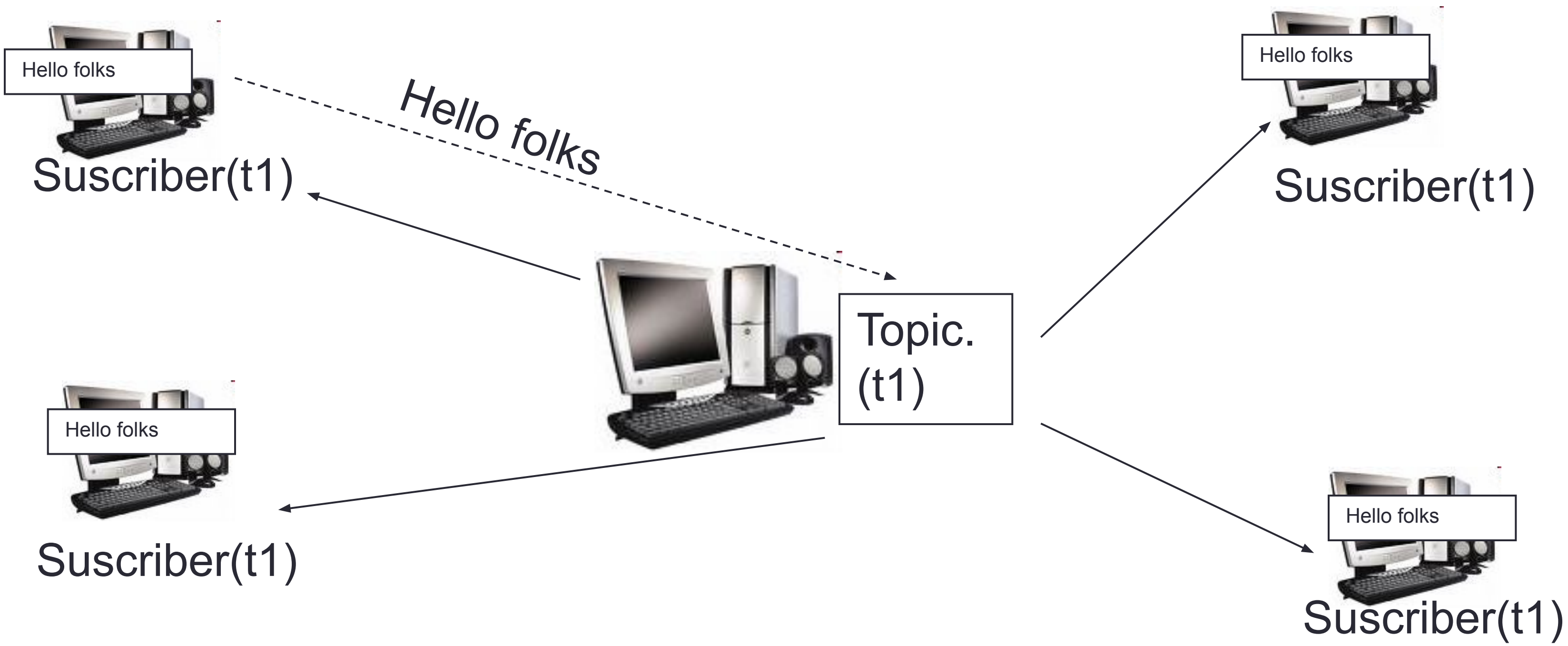
Point to point.

- Example: fighting for a task!

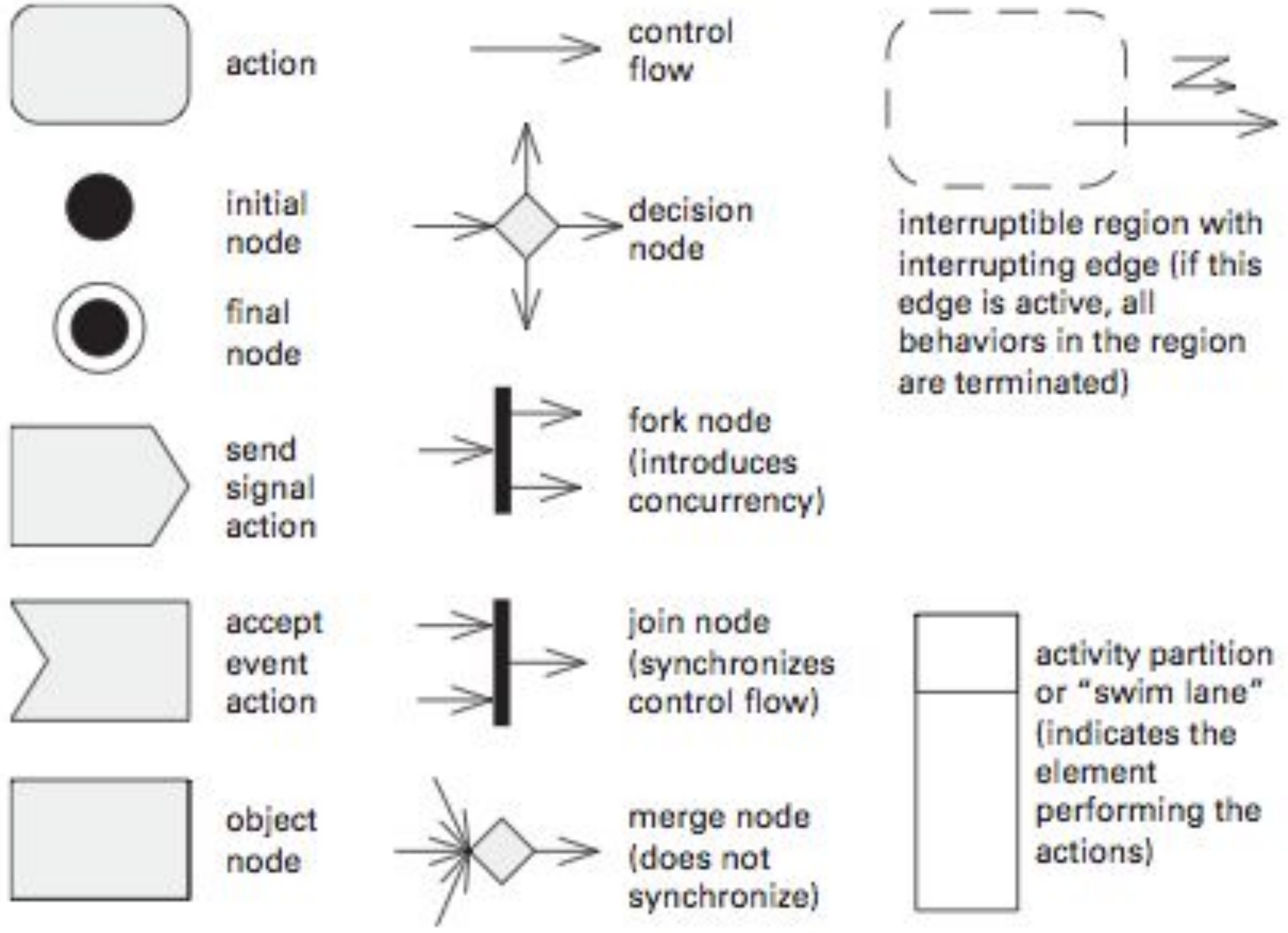


Publisher / Subscriber

- Example: 2 LOC Simple broadcast chat.

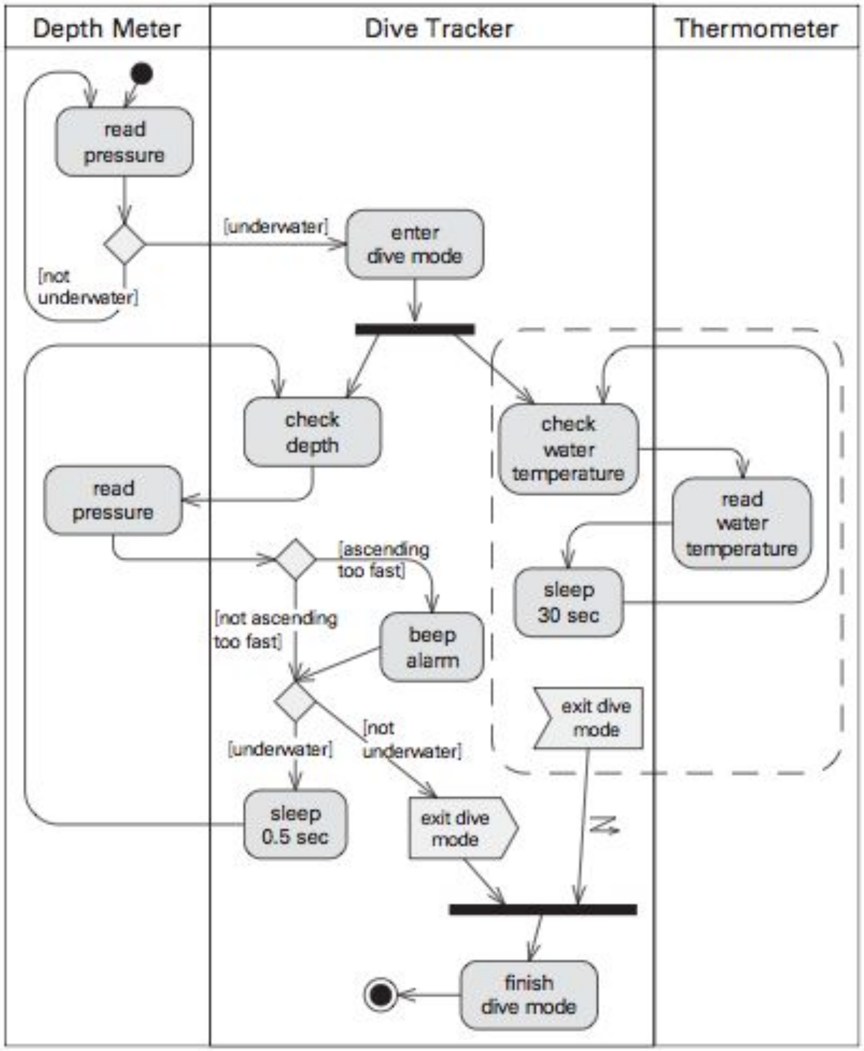


Documentación de arquitecturas: comportamiento dinámico.

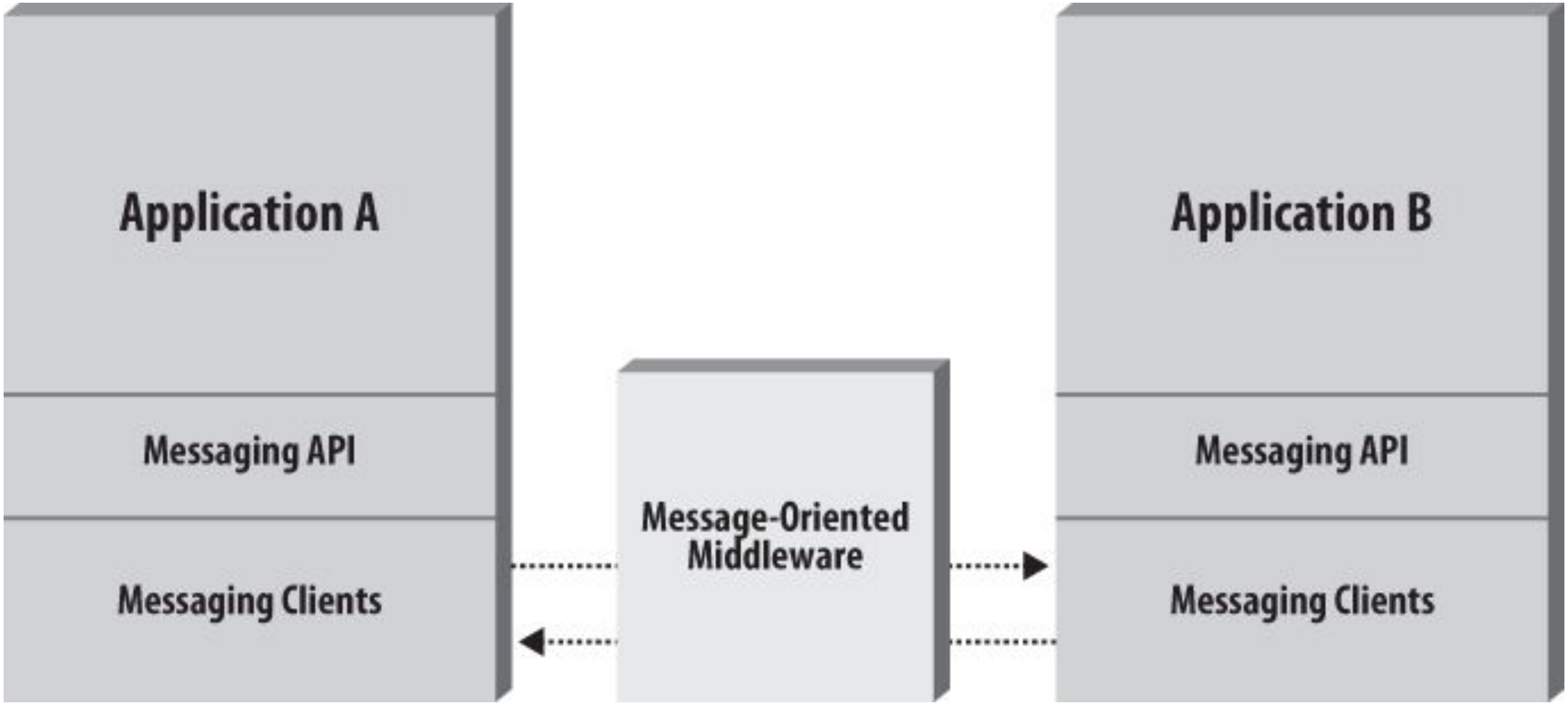


action
control flow
interruptible region with interrupting edge (if this edge is active, all behaviors in the region are terminated)
initial node
decision node
final node
fork node (introduces concurrency)
send signal action
accept event action
join node (synchronizes control flow)
activity partition or "swim lane" (indicates the element performing the actions)
object node
merge node (does not synchronize)

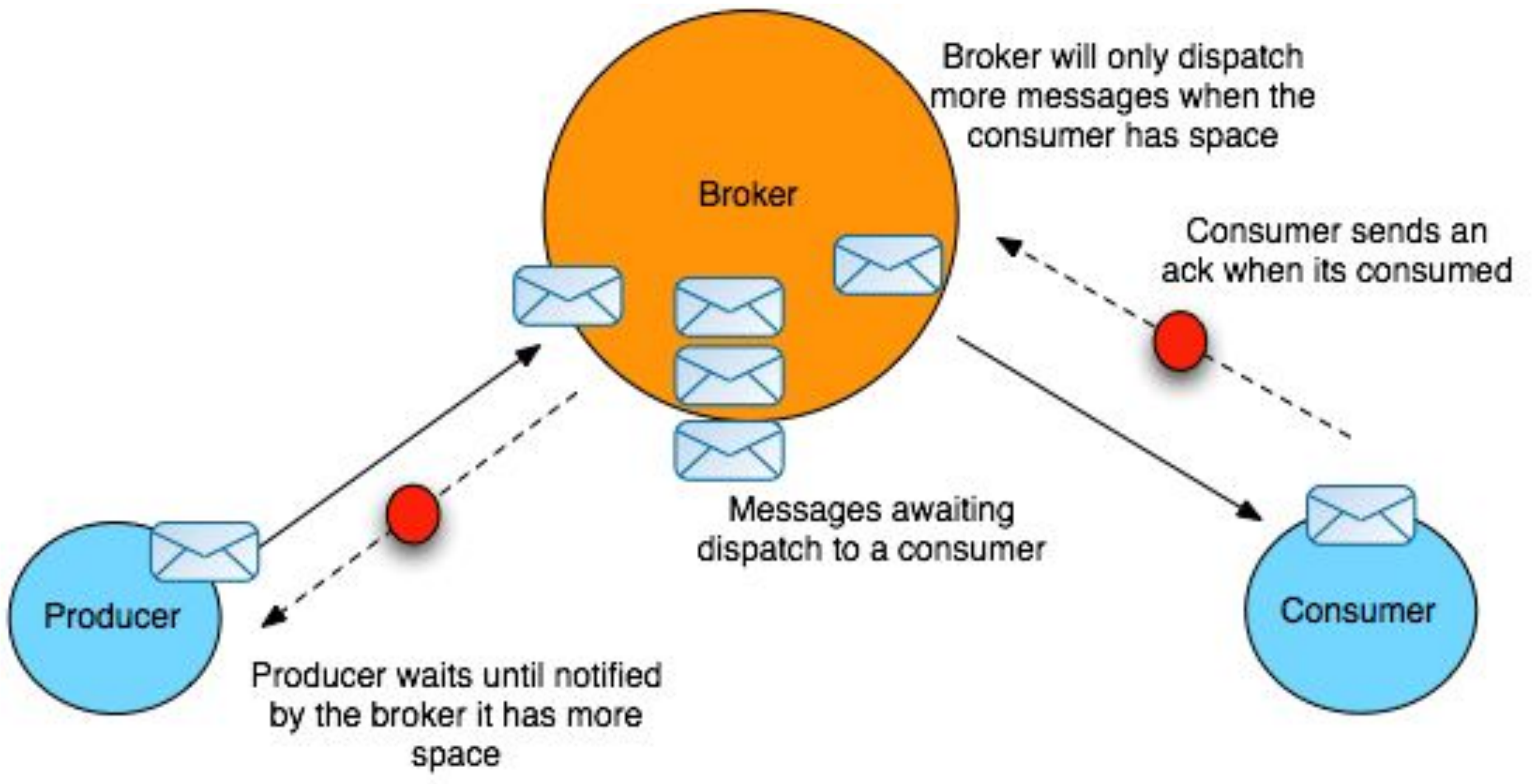
Diagramas de actividad



Message-oriented middleware

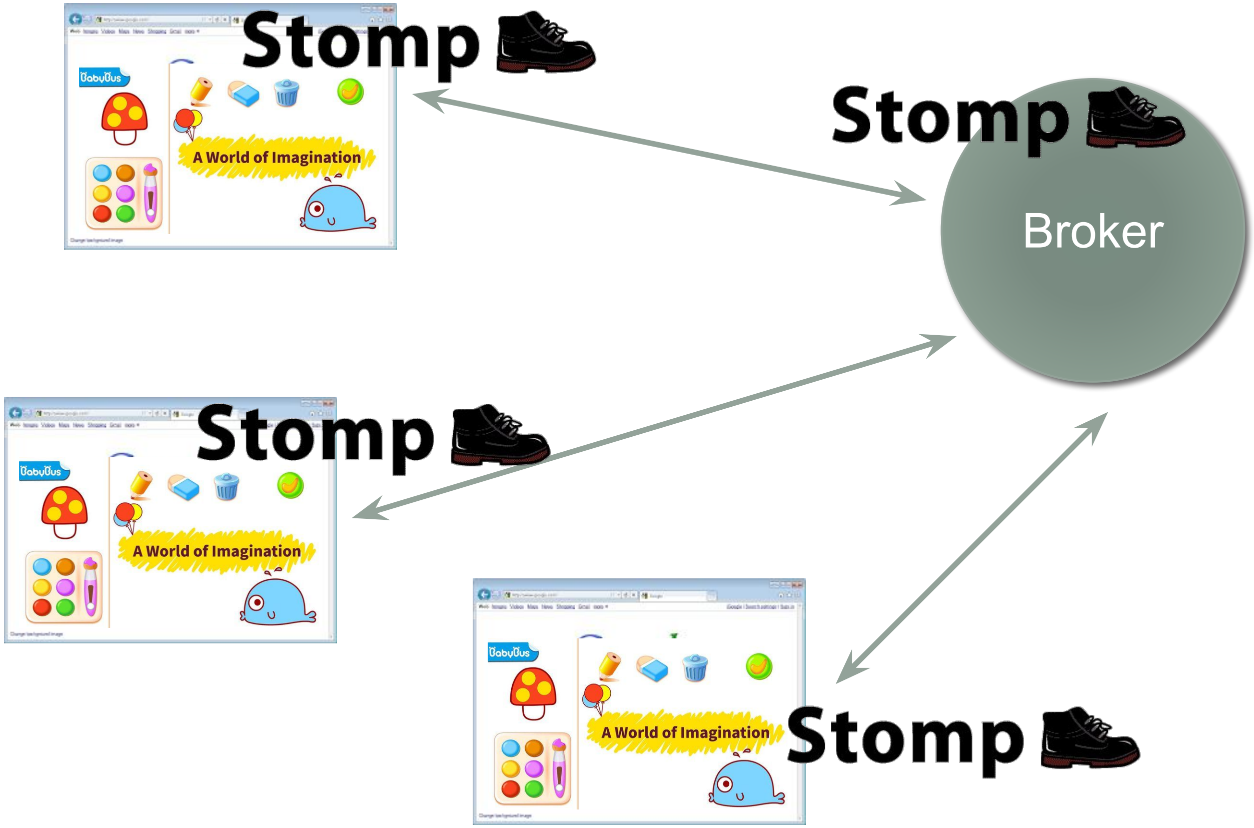


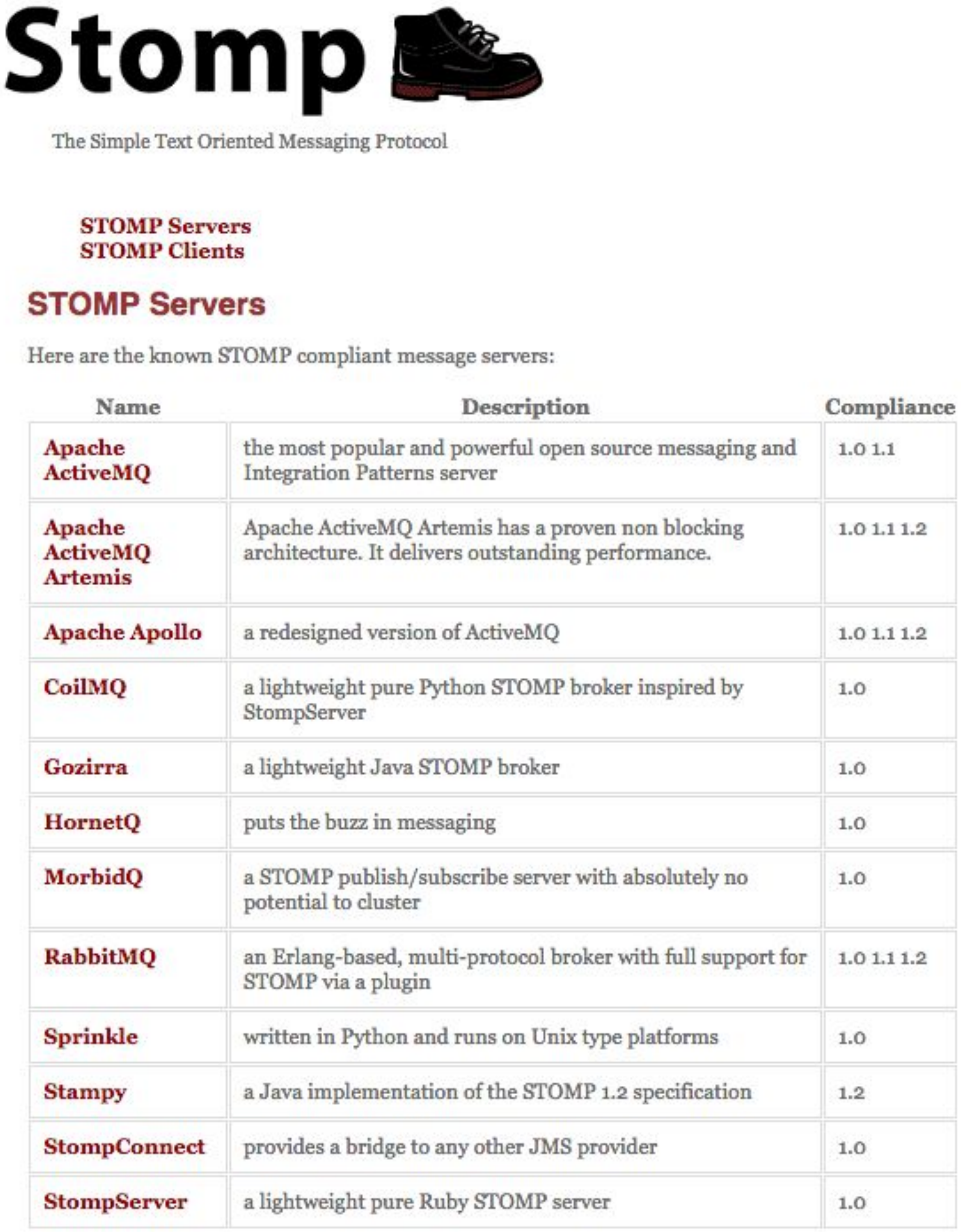
Message Brokers


Broker will only dispatch more messages when the consumer has space
Broker
Consumer sends an ack when its consumed
Messages awaiting dispatch to a consumer
Producer
Consumer
Producer waits until notified by the broker it has more space

Protocolos/plataformas de mensajería

Protocolos/plataformas de mensajería – Compatibilidad con clientes Web





Stomp

The Simple Text Oriented Messaging Protocol

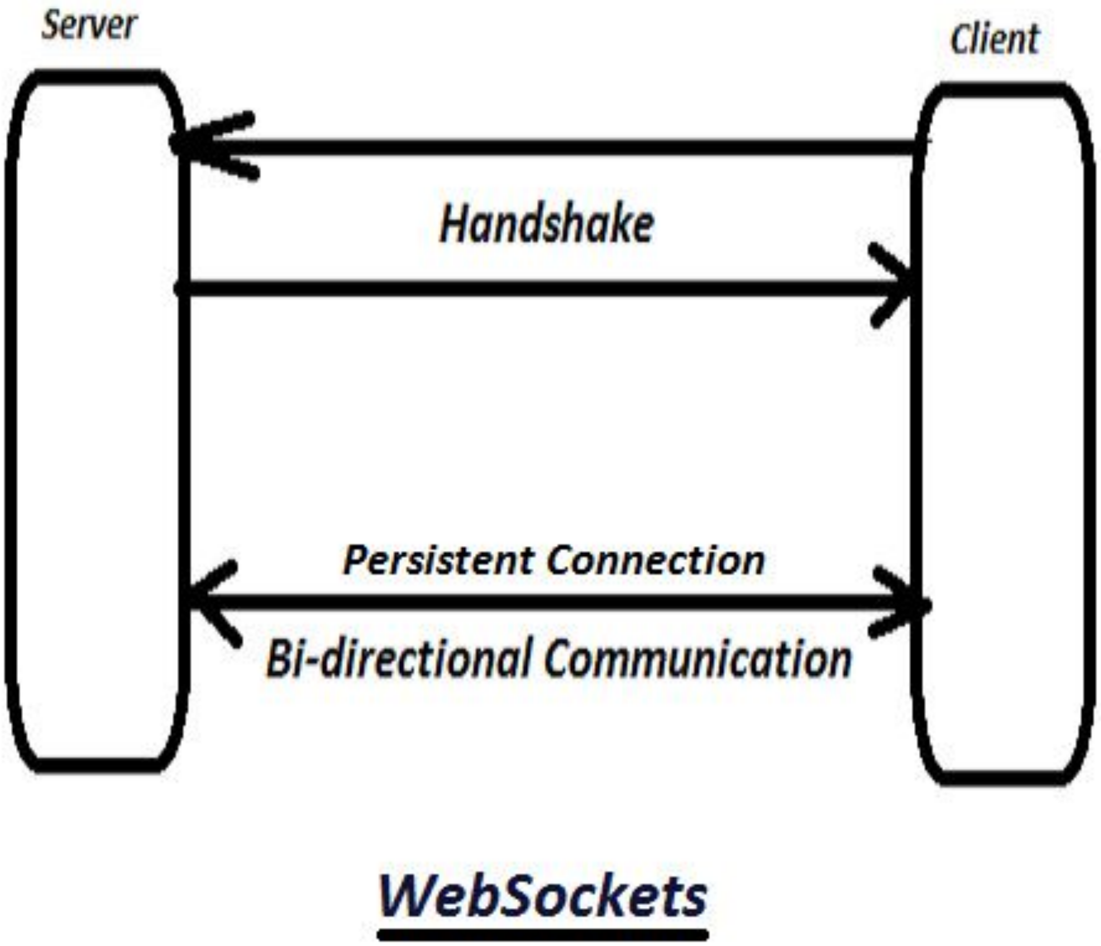
STOMP Servers
STOMP Clients

STOMP Servers

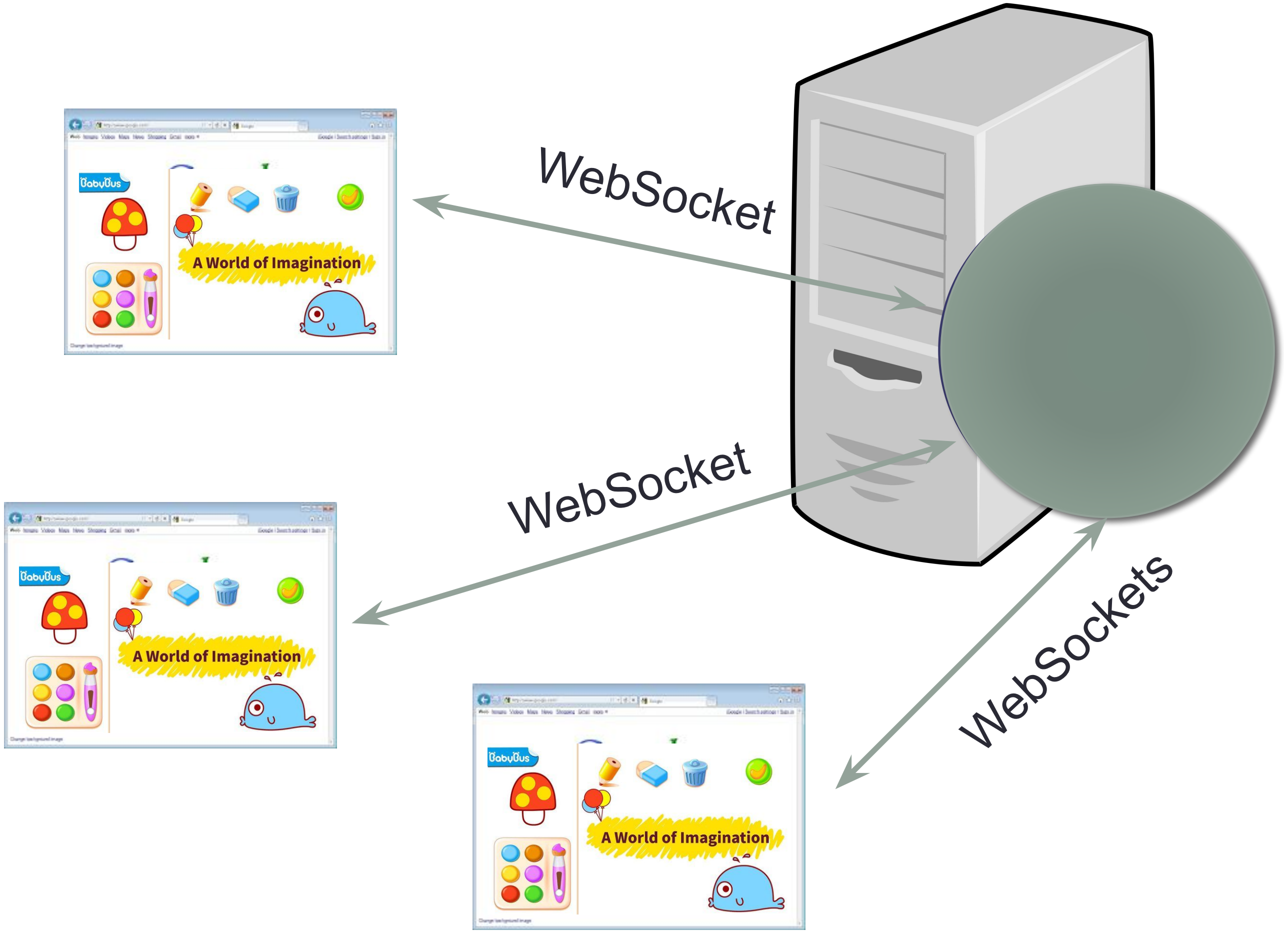
Here are the known STOMP compliant message servers:

Name	Description	Compliance
Apache ActiveMQ	the most popular and powerful open source messaging and Integration Patterns server	1.0 1.1
Apache ActiveMQ Artemis	Apache ActiveMQ Artemis has a proven non blocking architecture. It delivers outstanding performance.	1.0 1.1 1.2
Apache Apollo	a redesigned version of ActiveMQ	1.0 1.1 1.2
CoilMQ	a lightweight pure Python STOMP broker inspired by StompServer	1.0
Gozirra	a lightweight Java STOMP broker	1.0
HornetQ	puts the buzz in messaging	1.0
MorbidQ	a STOMP publish/subscribe server with absolutely no potential to cluster	1.0
RabbitMQ	an Erlang-based, multi-protocol broker with full support for STOMP via a plugin	1.0 1.1 1.2
Sprinkle	written in Python and runs on Unix type platforms	1.0
Stampy	a Java implementation of the STOMP 1.2 specification	1.2
StompConnect	provides a bridge to any other JMS provider	1.0
StompServer	a lightweight pure Ruby STOMP server	1.0

WebSockets


Server
Client
Handshake
Persistent Connection
Bi-directional Communication
WebSockets

Protocolos/plataformas de mensajería – Compatibilidad con clientes Web



STOMP/WS vs REST

StompWS

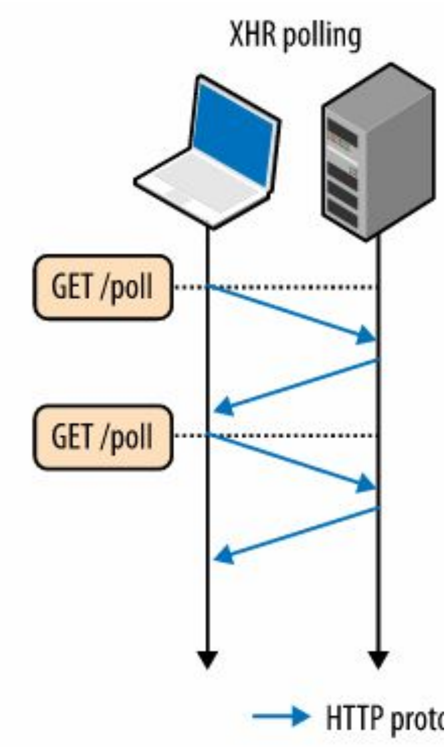
- Persistent Connection.
- Bi-directional communications.
- Not HTTP! (TCP channel)

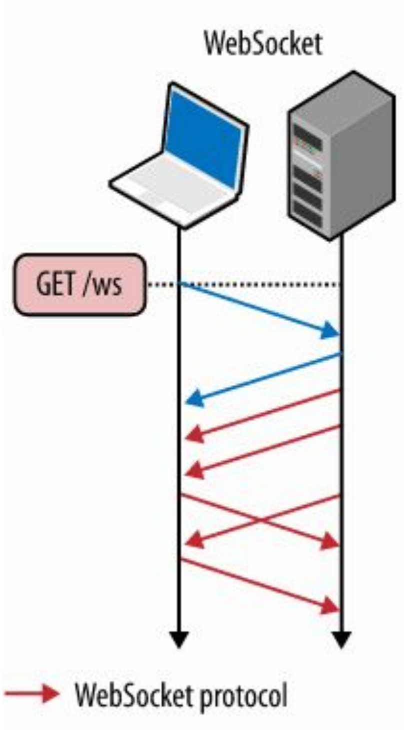
REST

- Stateless Uni-directional communications.
- HTTP Based protocol.

STOMP/WS vs REST

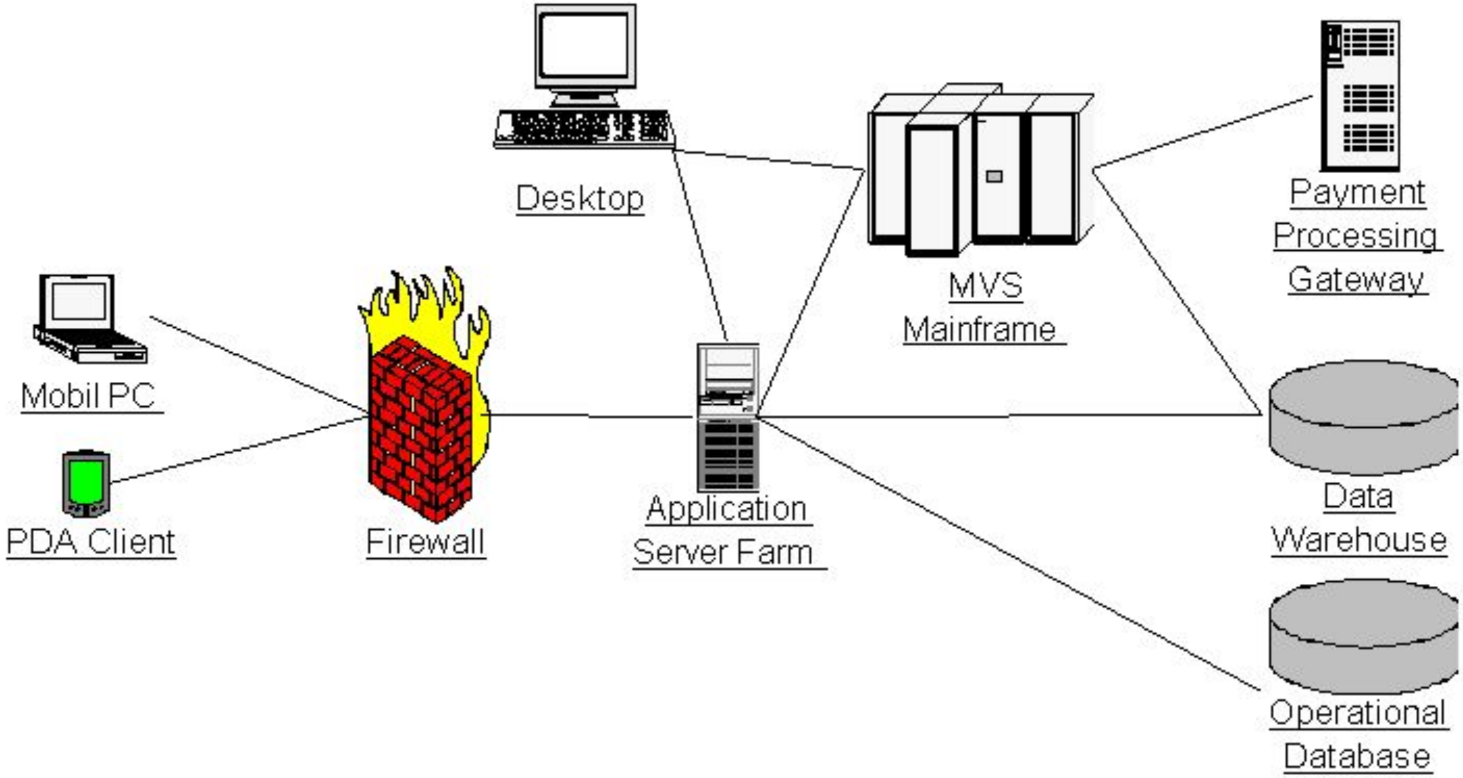
- STOMP/WS
  - High-frequency, Low latency communications.





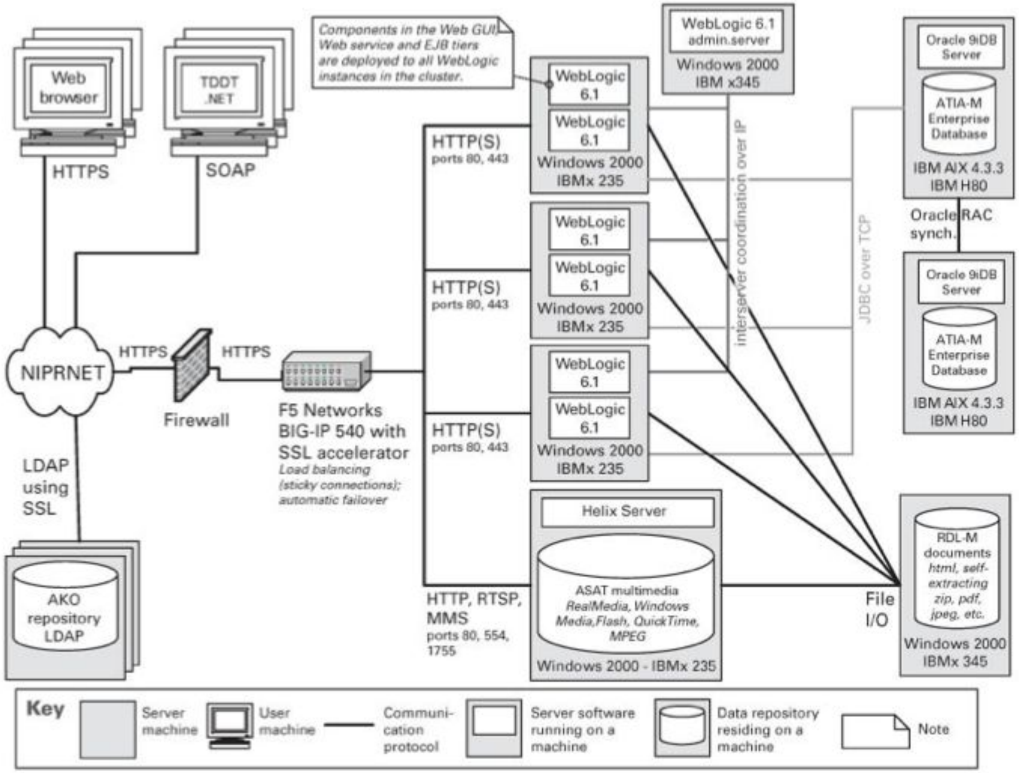
Documentación de arquitecturas: despliegue

- Vistas informales



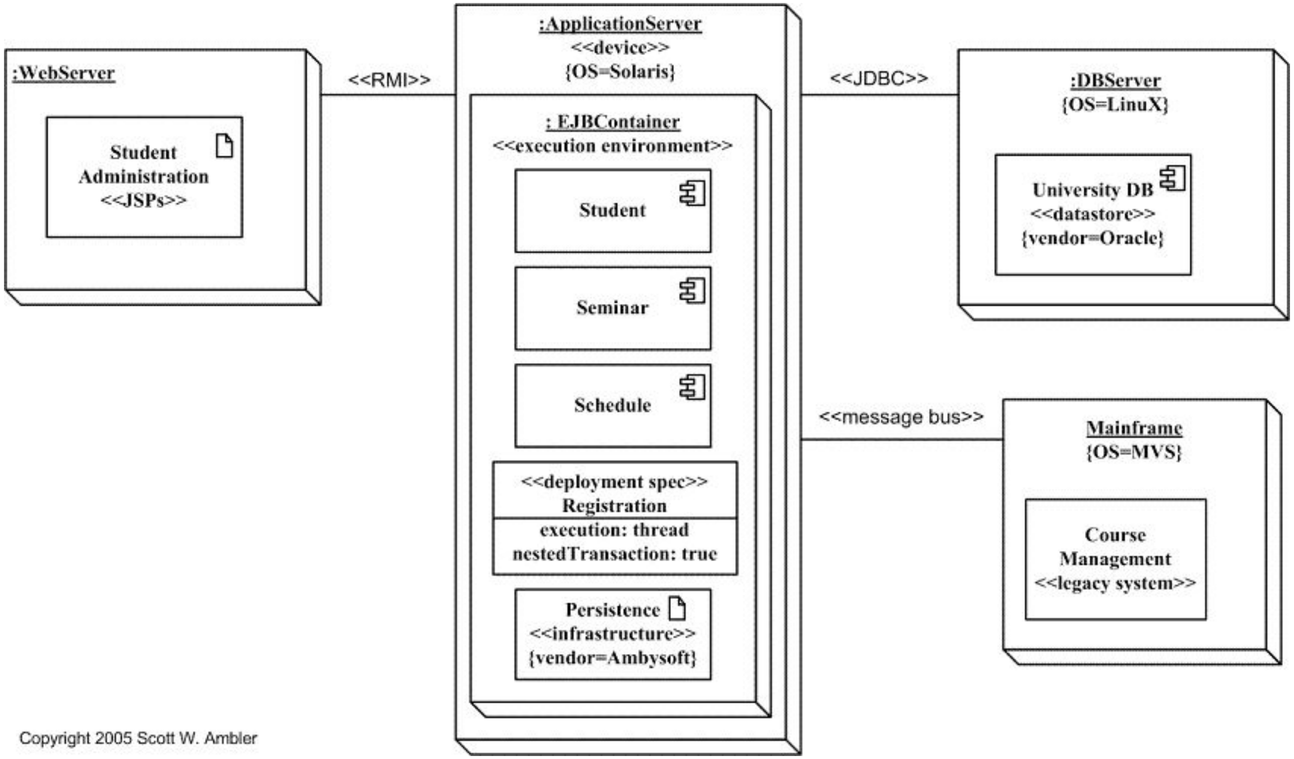
Documentación de arquitecturas: despliegue

- Vistas informales


Web browser
TDDT .NET
Components in the Web GUI, Web service and EJB tiers are deployed to all WebLogic instances in the cluster.
WebLogic 6.1 admin.server
Windows 2000 IBM x345
Oracle 9iDB Server
ATIA-M Enterprise Database
IBM AIX 4.3.3 IBM H80
Oracle RAC synch.
Oracle 9iDB Server
ATIA-M Enterprise Database
IBM AIX 4.3.3 IBM H80
HTTPS
SOAP
HTTP(S) ports 80, 443
WebLogic 6.1
WebLogic 6.1
Windows 2000 IBMx 235
HTTP(S) ports 80, 443
WebLogic 6.1
WebLogic 6.1
Windows 2000 IBMx 235
HTTP(S) ports 80, 443
WebLogic 6.1
WebLogic 6.1
Windows 2000 IBMx 235
interserver coordination over IP
JDBC over TCP
NIPRNET
HTTPS
HTTPS
Firewall
F5 Networks BIG-IP 540 with SSL accelerator
Load balancing (sticky connections); automatic failover
LDAP using SSL
AKO repository LDAP
Helix Server
ASAT multimedia RealMedia, Windows Media,Flash, QuickTime, MPEG
Windows 2000 - IBMx 235
HTTP, RTSP, MMS ports 80, 554, 1755
File I/O
RDL-M documents html, self-extracting zip, pdf, jpeg, etc.
Windows 2000 IBMx 345
Key
Server machine
User machine
Communi-cation protocol
Server software running on a machine
Data repository residing on a machine
Note

Documentación de arquitecturas: despliegue

- UML – Diagrama de despliegue (deployment)



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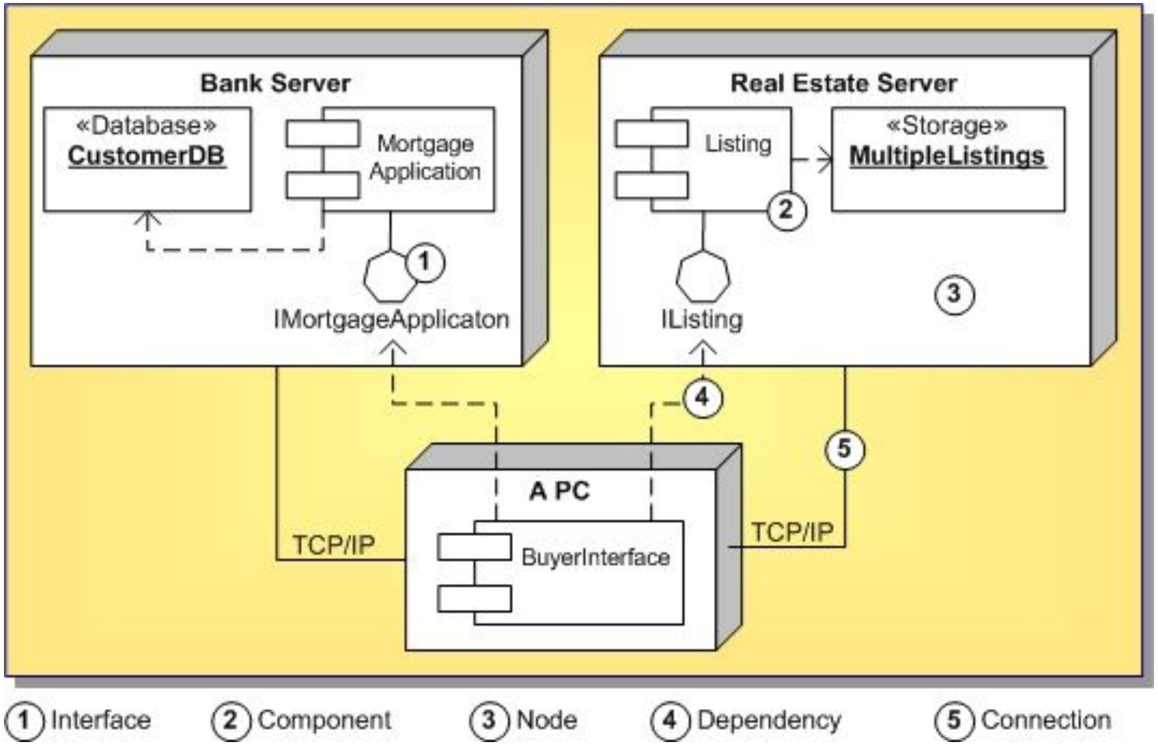
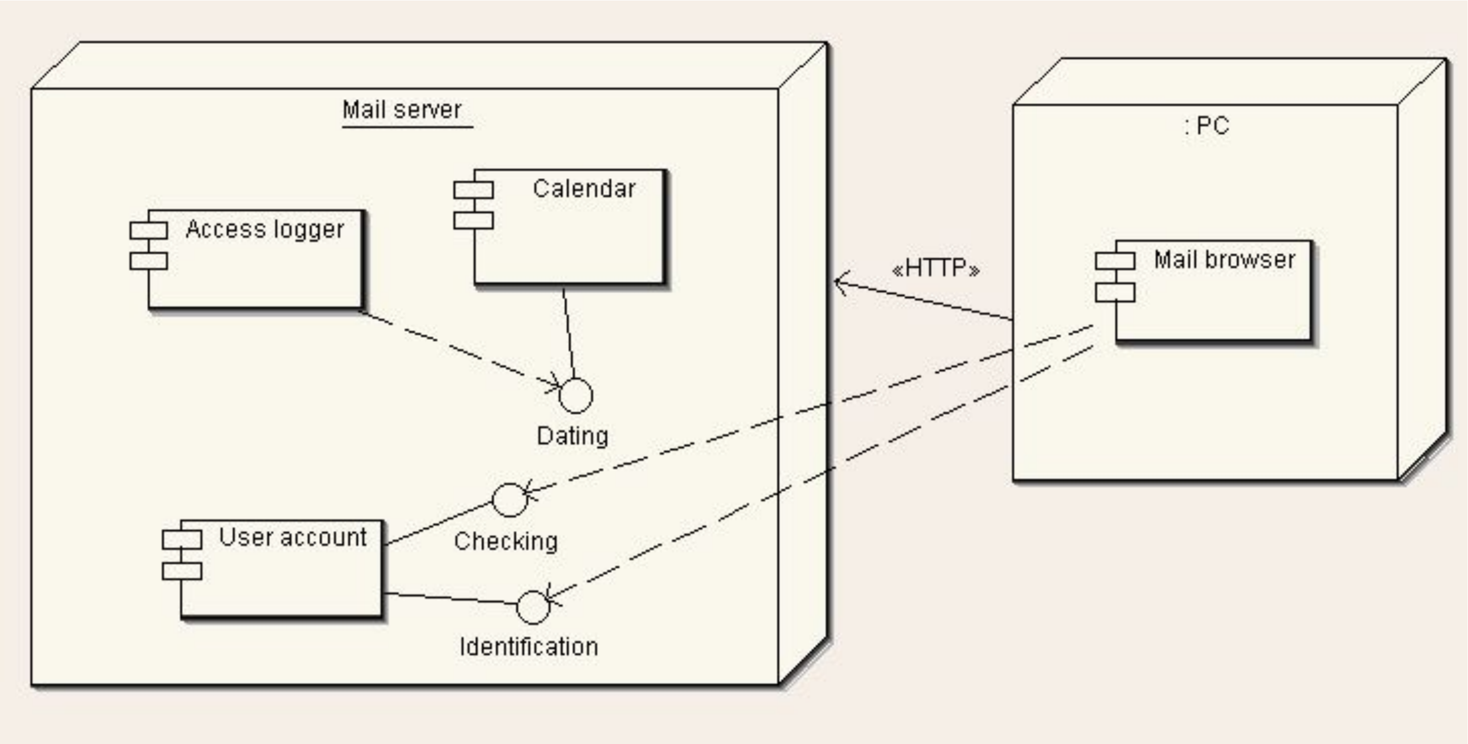
Documentación de arquitecturas: despliegue

- UML - Diagrama de despliegue (deployment)

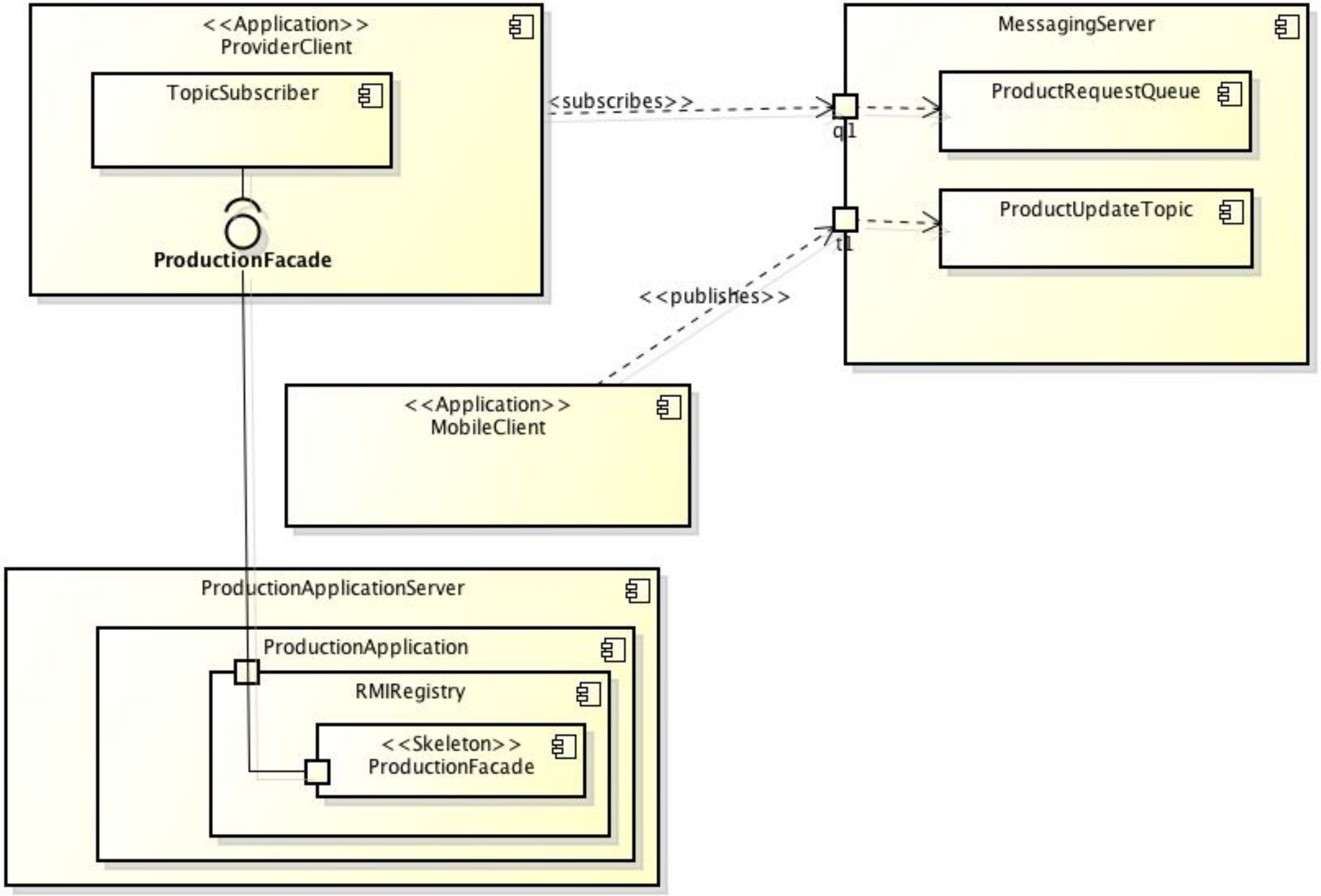


Documentación de arquitecturas: despliegue

- UML - Diagrama de despliegue (deployment)



Vistas estáticas (componentes)



Messaging Domains

- Point-to-Point (PTP)
  - built around the concept of message queues
  - each message has only one consumer
- Publish-Subscribe systems
  - uses a “topic” to send and receive messages
  - each message has multiple consumers

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- *Some images and text extracted from www.rgoarchitects.com/Files/**ooprimer.ppt***

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- Pico, http://www.picocontainer.org/
- Hivemind, http://jakarta.apache.org/hivemind/
- Needle for Ruby, http://needle.rubyforge.org/