

This case study presents an interactive IoT application involving a very large number of smartphones, with its requirements on the middleware.

CLIENT PROFILE

Our client is a software integrator building an IoT solution for an airport operator.



THE PROJECT

The operator wishes to keep a durable link with the airport users, by means of an interactive mobile application to download on their smartphone.

We are consulted over the link between the smartphones and the information system.

KEY CRITERIA

ENABLE LOAD SCALING

very high number of potential users, with an indicative target of 5.000.000

ENSURE MESSAGES RELIABILITY

two-way communication between smartphone and information system, with no message loss

PRESERVE INTERACTIVITY

all devices connected simultaneously

low connection delay

low message latency

JORAMMQ

OPTIMIZED TRANSACTIONAL LOG

interactivity is preserved despite strong requirements of scalability and reliability, thanks notably to an optimized in-house transactional log

VERTICAL SCALABILITY

a single JoramMQ broker deployed over a virtual machine supports more than 700.000 concurrent connections

INDUSTRIAL SOLUTION

horizontal scalability due to a rational application architecture

servers in HA configuration to guarantee the application availability

CLIENT BENEFITS

A RELIABLE AND SUSTAINABLE SERVICE

With JoramMQ our client gets a reliable and performant communication middleware, able to scale to the high load he expects.

He may focus on building and providing to his users the applicative added value at the core of his project.

A CONVENIENT LICENSING MODEL

The JoramMQ licensing model, fixed for a project, guarantees to our client a fixed and known pricing for the whole project duration.

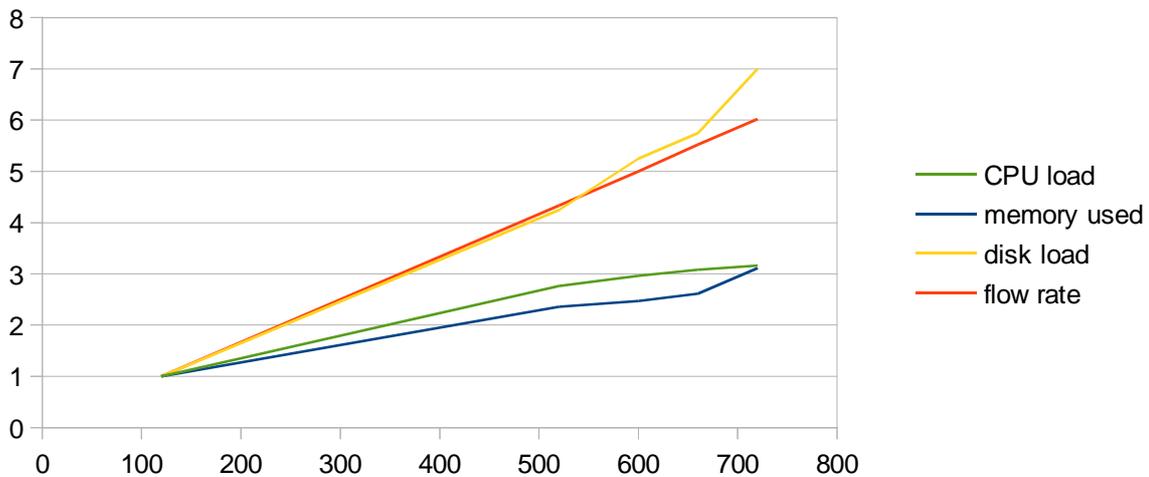
Licensing will not be a concern which could hamper his applicative creativity.

PROTOTYPING

We have realized a sizing study for our client, using a virtualized infrastructure. The curves in the diagram below have been measured on a configuration with 4 processors and 16 GB of RAM. The various measurement criteria are displayed in a relative scale, with the 100 base at 120.000 smartphones.

Every point of the curves marks a stable throughput for a number of smartphones, that the system may sustain over time.

The progressiveness of system resources consumption with the load growth is remarkable, sign of a sound product. A first inflexion is noticeable when the middleware reaches its limits, with 720.000 concurrently connected smartphones.



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ScalAgent Distributed Technologies is an ISV specialist of asynchronous middleware. We build, distribute and support middleware products, which we can use to prototype your distributed application onto.

ScalAgent DT has notably designed and build the multi-protocol broker JORAM, open-source alternative to WebSphere MQ from IBM which is distributed by the OW2 consortium. JORAM is used in more than 60 countries.

ScalAgent DT also builds and distributes the freemium software JoramMQ, enriching JORAM with a number of additional software and services. JoramMQ notably includes a particularly efficient and scaleable MQTT broker.