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## Qworum Fact Sheet

### *Description*

Armangil Software is the provider of the Qworum cloud integration product.

Our customers are SaaS vendors and their customers, as well as businesses.

Armangil Software is a privately held Switzerland-based company.

### *Competitors*

Other integration vendors, including Boomi (acquired by Dell), Cast Iron Systems (acquired by IBM), and SnapLogic. It is worth noting that most of our competitors offer data integration solutions (useful for business analytics), rather than process integration, as we are.

### *Patent*

Qworum is protected by patents pending in Europe (EP 1 993 254 A1) and the United States (US 2008/0288624 A1). The title of the patent is "A method and a system for the composition of services".

### *Patent Owner & Inventor*

Mr. D. Armangil, [info@qworum.com](mailto:info@qworum.com)

### *Website*

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## Press Release

Qworum integration solution now available on all major browsers

January 25<sup>th</sup> 2012, London, UK

At the Cloud Expo Europe event in London until January 26<sup>th</sup>, Armangil Software is announcing the availability of its Qworum integration technology on all major web browsers.

Qworum offers growth for SaaS businesses. Recent surveys show that integration requirements are one of the main reasons why companies decide to forgo SaaS offerings, opting instead to stay with on-premise solutions, or even to transition from SaaS to on-premise solutions. With its Qworum offering, Armangil Software helps SaaS vendors better address the integration concerns of their customers.

Qworum is also available as a cloud-ready SOA product, for Business Integration behind the firewall.

Qworum is a patent-pending interactive service technology, used for integrating web applications with each other. Integration is performed at the browser level.

Qworum provides full support for cross-application interactive workflows. It is used not only for connecting SaaS applications with customers' internal applications, but also different SaaS applications with each other, and different internal applications with each other.

Armangil Software is a privately held Switzerland-based company.

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## Facts, Figures & Fundamentals

### *Service-oriented architectures*

SOA is an architectural style used for designing information systems, where business applications are built by combining services. This style is acknowledged as yielding agile systems.

Industry heavyweights such as IBM are pushing the SOA concept to customers. According to WinterGreen Research, the market for SOA software is growing: in the United States alone, "SOA Applications Middleware Market [is] at \$3.5 Billion [and] in 2009 [it] is Anticipated to Reach 8.2 Billion by 2016".

Qworum is an SOA platform.

### *Software as a Service*

Wikipedia: "Software as a service (SaaS) is a model of software deployment over the internet. With SaaS, a provider licenses an application to customers for use as a service on demand, either through a time subscription or a pay-as-you-go model."

The SaaS business model is validated by companies like salesforce.com whose annual revenue exceeds \$1 billion. According to a May 7, 2009 Gartner report titled "Market Trends: Software as a Service, Worldwide, 2009-2013", the SaaS market is projected to achieve \$8 billion in 2009, almost a 22% increase from 2008 revenue of \$6.6 billion. The market research firm projected the SaaS industry to achieve consistent growth through 2013 when worldwide SaaS revenue will reach \$16 billion for enterprise applications.

According to a Gartner survey conducted in December 2008, "Respondents who have considered using SaaS, but decided not to, were asked what factors they considered in making the decision. [...] 38 percent said difficulty with integration [...]".

Qworum facilitates SaaS integration.

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## Story Ideas

### *Is the web browser the new operating system?*

The web is increasingly being used for accessing applications hosted on remote servers. Nowadays, many widely used desktop applications are available as web applications. Thus, desktop operating systems are becoming a commodity. What matters is the web browser. Whereas desktop applications are built on top of functionality provided by the operating system, web applications are built on functionality that is made available to them by web browsers. Thus, the browser is the new operating system. Who owns it? No single commercial entity will ever entirely own it (the technologies are mostly defined by standards bodies), but parts of it are already privately owned (Adobe Flash, Qworum).

### *The rise of on-line marketplaces*

Marketplaces facilitate the buying and selling of products and services between individuals and commercial entities. As such, they are an answer to a basic economic need. This need is confirmed on the Internet as well. eBay was born in the early days of the web, and is a multi-billion dollar company today. More recently, Apple has created a new marketplace model: that of marketplaces tied to consumer electronics devices (iPod, iPhone, iPad and iTunes Store, App Store). Nokia has adopted that model with its Ovi Store. Qworum adopts a modified version of that model, in the sense that its marketplace is tied to software instead of hardware.

### *Web technologies in the enterprise*

In the enterprise, web technologies are used for information dissemination (wikis) and communication (forums, weblogs). In addition, business applications are increasingly available as web applications inside the enterprise. There is a need for making these web applications communicate with each other. This need is addressed by Qworum.

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## Frequently Asked Questions

*How did you have this idea?*

*D. Armangil:* In 1998 I was attending a postgraduate course on Communication Systems at the EPFL (a well-known technical university in Lausanne), and everyone was required to do a project. Instead of choosing one of the proposed subjects, I decided to implement a web-based desktop system. To summarize, it consisted of a desktop web page, from which applications could be launched. These applications also displayed web pages to the end user. But it didn't stop there: applications also needed to launch tools for choosing files, etc. That project helped me become aware of a larger problem for which there was no technical solution at the time. Namely, how can websites or web applications be divided into reusable components? I certainly was nowhere near answering that question satisfactorily at the end of that project. The idea of using special web messages for composing web applications only occurred to me several years later.

*Why did you decide to follow up on the idea?*

Because I realized that this technology could be applied in a number of situations. For instance, it could be used between websites, rather than only inside individual websites.

Also, I was aware that the web was rapidly evolving from a pure “web of information” to a “web of information and applications”, and that my idea was relevant to the application web. Let me explain: the initial purpose of the World Wide Web was the dissemination of information (the “information web”, if you will), yet in the real world it is increasingly being used as a way of accessing applications hosted on remote servers (the “application web”). Since the beginnings of the web, many technologies have been introduced precisely in order to bridge the gap between the information web and the application web, such as HTTP cookies, Javascript, Ajax, and HTML5, to name a few. Qworum is part of that trend.

*Is it not difficult to define a web format outside of a standards body?*

There are several answers to that question.

First, it might indeed have been very difficult or even impossible if any sort of hook-up had been required to an existing web standard such as HTML. In that case, the Qworum specification probably would not have seen light of day. It is amazing that it is even possible to define a web specification that browsers have intimate knowledge of, yet is completely independent from existing web standards.

Second, a specification is only valuable if it is implemented in actual software. On the one hand, web browser vendors are much more likely to provide a native implementation of a specification if it is an official standard. On the other hand, nowadays many modern web browsers offer a considerable degree of extensibility, so that specifications are implementable as an add-on for some of them. Web browsers were much more closed in the early days of the web. Tim Berners-Lee is quoted as saying “When I invented the Web, I didn't have to ask anyone's permission”. Similarly, the more extensible web browsers are, the more client-side innovation is made possible.

*Is there a business model for your technology?*

Yes, several of them.

The browser software could be sold to businesses for software integration, following the traditional enterprise software model.

In addition, the marketplace model is well-known in the Internet sector, and it is applicable here too. Because the owner of a service and the owner of the business or website which calls that service might not be the same person or legal entity, a financial transaction would be called for in many cases. The marketplace operator would act as a middle-man for that transaction.

Note that this dual business model is similar to one used by Apple, in the sense that if the browser software were an Apple portable device (iPod, iPhone or iPad), then the service marketplace would be an Apple on-line store (App Store or iTunes Store).

*Where does the Qworum name come from?*

It comes from “quorum sensing”, a term which is well known by biologists. Simply put, it describes the fact that sometimes individuals (bacteria, etc) behave in a coordinated manner when surrounded by other individuals. By analogy, if websites were bacteria, then Qworum would be the element that makes websites cooperate with each other.

*Where would you like to see this technology go in the future?*

Qworum is a mature technology, by now. It is ready for wide-scale use. So I encourage SaaS vendors and integrators worldwide to consider Qworum when elaborating an integration strategy for their customers. Do your customers' integration requirements include human workflows? Have you been forced to ignore those scenarios because of a lack of applicable technology? Qworum is there for you, today.



### **Inventor's Biography**

Mr D. Armangil is a software engineer, and founder and CEO of Armangil Software.

### **Media Contact**

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