



## Why and How a Traditional Proprietary Software Vendor Operates in Open Source Software (OSS):

### A Case Study of Misys

*To provide all the software that a healthcare organisation requires, that utilises various devices for data capture, and delivers a variety of reporting, collaboration and analysis that are required in healthcare organisations – is typically not possible or desirable to achieve through a single vendor. Also, the rate of development required to embrace innovative technologies means that traditional models of development, which require up-front investment, can be a risky strategy.*

*Traditional business models are therefore being challenged; and the requirement for interoperability lends itself to a more collaborative open approach. Misys is one such organisation determined to adapt their previous approach, introduce disruptive business models and to leverage the momentum of change to transform worldwide healthcare delivery.*

#### Background

Misys was founded in 1979 in the UK and is listed on the London Stock Exchange (LSE). Its headquarters are in London, but with a large company presence in the US. Misys provides application software and services for the financial markets and healthcare industries. The Open Source Division is US based and focused on two major worldwide problems: tracking of carbon credits and interoperability problems in healthcare.

In 2007 Misys' CEO Mike Lawrie made an announcement that Misys would formally create a division around open source technology. MOSS-Healthcare (Misys Open Source Solutions) was established, and provides software and consulting services to help achieve Health Information Exchange (HIE) across communities in the United States. By adopting open source software (OSS), Misys, previously a typical proprietary software company, has introduced transparency and openness as a key part of their business turnaround.

#### Misys's Open Source Business Model

Since 2007, Misys has directed some investments from its core business into OSS as a long-term strategic goal. After 3 years, MOSS-Healthcare has built a profitable business model around OSS. Now MOSS-Healthcare has a well-established 5-year roadmap with clear revenue expectations on OSS that predicts a healthy business outlook.

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### ***Pricing Model***

At the end of 2009, MOSS-Healthcare had built the world's first, fully open source, IHE standards-based HIE software stack called Misys Connect™ Exchange that can either be run as remote services hosted on Misys infrastructure or downloaded from Open Health Tools (OHT)<sup>1</sup> and run locally. MOSS-Healthcare does not charge a license fee for using the Misys Connect™ Exchange code. Like the Redhat model, MOSS-Healthcare generates revenue from support contracts. MOSS-Healthcare also provides customers with proprietary options including the Misys SaaS Platform and Misys Connect™ Portal. MOSS-Healthcare provides a secure environment to facilitate sharing of patient clinical data (e.g. discharge summaries, progress notes, images, demographics, prescriptions, and eReferrals) through discrete service offerings, called "Clinical Groupware" components which are offered through the Misys Connect™ Portal. The Portal is meant to handle issues such as single sign on, roles based access, administrative controls, and the retention of patient-in-context so that patient information is retained from applet to applet in a seamless way. Some of the MOSS services are provided by 3<sup>rd</sup> party software companies. MOSS-Healthcare has license agreements with the third parties and enters into revenue sharing relationships. MOSS-Healthcare certifies the applications within the portal from other vendors. Pricing for Clinical Groupware is variable and depends on the number of monthly subscribers, the type of application and provides various combination discounts for Clinical Groupware components that are being subscribed. The Misys Connect™ Portal solution itself is free, but users are required to subscribe to at least one chargeable clinical groupware component (i.e. clinical viewer). MOSS' pricing model is flexible: their customers may pay up front for an enterprise license plus annual support or can on a 'pay-as-you-go' all inclusive fee based on components used on a monthly basis. Consulting services are charged on time and materials.

Solutions are being purchased by a range of parties including consultants and system integrators who wish to help their clients set up exchanges, by hospitals that have a desire to control their local community exchange, or by not-for-profit organizations that are taking over the operational role of the exchange in a community.

### ***Collaborative Development***

Open source fosters collaborative development. MOSS-Healthcare is working with a range of partners to add to the open source domain including Universities, students within Universities, OSS companies, associations, hospitals, individuals contributors, and even other proprietary companies. In the early stages much of the development was undertaken by MOSS but this percentage is slowly changing, and indeed in one University collaboration approximately 85% of the development is done external to Misys.

Therefore, OSS challenges the typical proprietary business models where companies invest in a product it believes has a market in the future without external collaboration. The OSS model shares risk and shares intellectual property.

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1 Open Health Tools <http://www.openhealthtools.org/index.htm>



- *Customer funds MOSS's development*

Hartford Hospital is an innovative hospital committed to using open source components. They held a long standing vision that they would help to create an open source health information exchange and even endeavoured to begin to build the PIX Manager (IHE profile for patient identification.) After attempting to build the profile themselves, they heard that MOSS had already built the component. They travelled to the IHE Connectathon in Chicago to take a look at what MOSS had already built and were very impressed by their demonstration. Hartford Hospital decided to fund MOSS to build the other components they needed. MOSS charged Hartford on time-and-materials and both companies agreed that anything that was created on the open source IHE platform would be contributed back to the Misys open source community. It was important for Hartford Hospital that they worked with an organization who shared their vision for open source development and could work with them on real life requirements. Likewise, MOSS could not have found a better partner who was willing to make contributions but who also was willing to test the components in real clinical settings.

- *Partner contributes to the source code*

The University of Cardiff has worked with MOSS on the IHE profile ATNA. ATNA is the Audit Trail and Node Authentication component that is used for auditing purposes. During this project, almost 85% of the work on the ATNA profile was contributed by University of Cardiff, funded through their research work. This allowed MOSS to shift some of their activities into other areas, while ATNA, which was a critical profile for MOSS, was developed through their open source project collaboration. In most cases, 10% to 15% of MOSS's codebase is now being developed in collaboration with third parties.

### ***Put all traditional revenue generation strategies into one basket***

Traditionally, OSS software vendors can generate revenue from providing consulting and support services around OSS software (e.g. Redhat), derivative products built on the community or Core/Whole product

and ancillary layers of the OSS stack (e.g. MySQL). MOSS has put all these revenue generation strategies into one offering:

- *Consulting and Support Services*

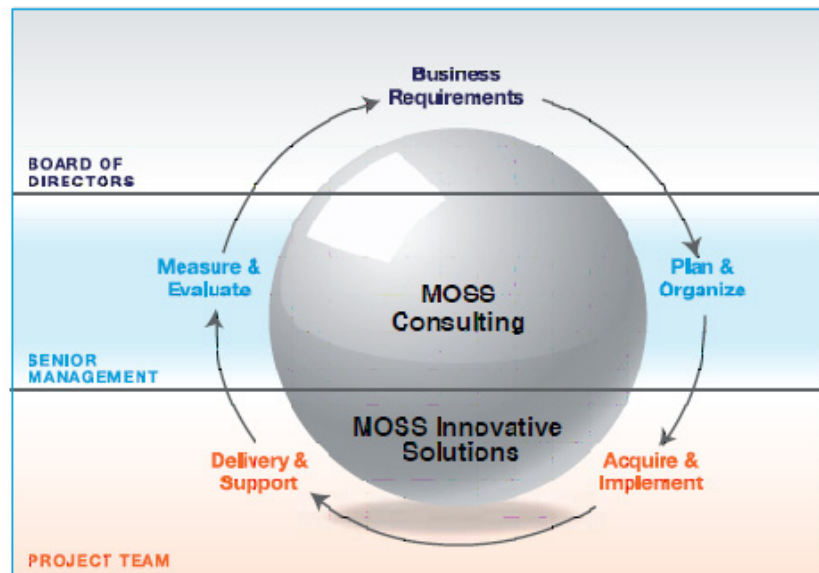
MOSS helps community stakeholders to set up governance structures, develop sustainable business models, and negotiate relationships within their communities to support the funding and operation of all exchange activities.

MOSS offers custom application development, architectural design and build consulting, as well as various support services. (See figure 1)



MOSS offers SaaS services and accepts operational responsibilities for the platform administration and technical deployment and delivery in exchange for a monthly subscription.

Figure 1: MOSS Consulting Service helps Organizations create plans to roll out health information exchanges



- *Core/Whole Product*

As mentioned above, providing the Core/Whole product is one of the services provided by OSS vendors. It simply means vendors will provide and support customers with a full solution, rather than just the elements they have developed/supply.

It also provides opportunities for the vendor of the original product to up-sell to customers in the market place for product/service up-grading and extensible functionality, in the knowledge that their products will interoperate with other elements in the service, even when provided by another vendor.

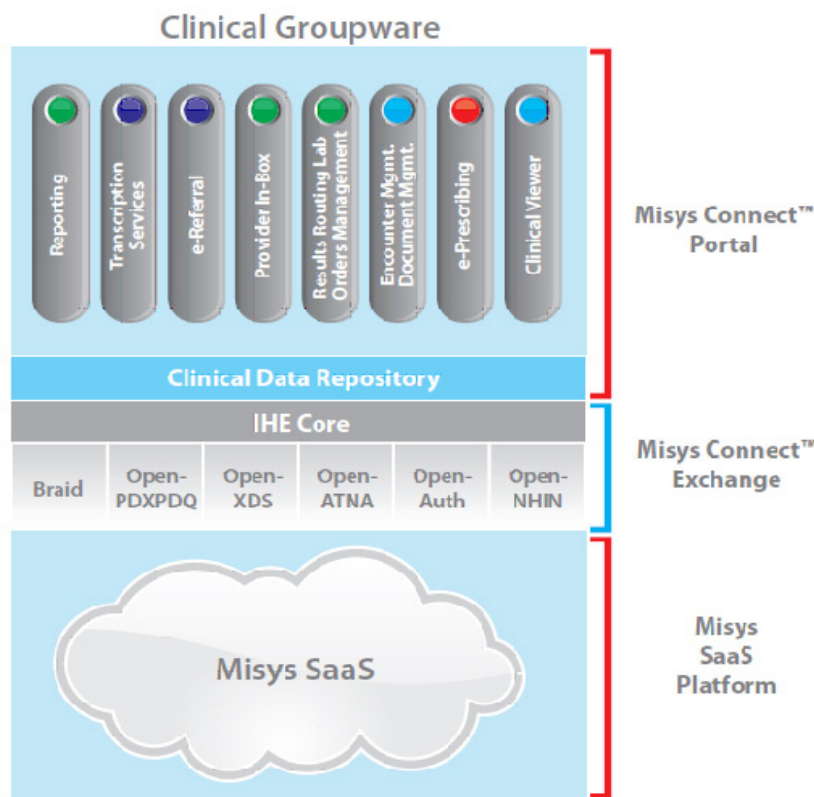
- *Dual Licensing*

Currently MOSS charges customers an enterprise licensing fee for some of their products (i.e. eMPI). Additionally MOSS extends their revenue opportunities through subscriptions of value added components that can be downloaded and used on a monthly basis. Under a subscription model, customers pay for what they need and what they are using.

**Note.** In the MOSS approach, patients get free access to their clinical data with the cost being born by the subscriber of the clinical service. The portal service helps MOSS increase their user base and encourages the use of chargeable clinical groupware component subscriptions. (See figure 2).



Figure 2: MOSS' solution stack includes the Misys Connect™ Exchange (open source), the Misys Connect™ Portal (proprietary and includes the Clinical Groupware components), and the Misys SaaS Platform to run the overall solution remotely for customers that require ongoing operations support.



### HIE Marketplace

This case study found that the motivation behind MOSS's participation in OSS is mainly from a long-term perspective, is strategy-led, and a purposeful adoption of disruptive technology. Adopting OSS is a strategy for MOSS to differentiate itself from its competitors in the market by taking a long-term view of how the market will develop. According to MOSS, around 7% or so of the United States population are actually included in a HIE today, and over 90% of the market opportunities in the HIE have not yet been created. MOSS looks into the down-stream market of software and considers open source as a disruptive technology to help the company take a leadership in the future marketplace. MOSS is also keen to explore market opportunity in UK/EU following on from their currently U.S focused presence.

### Why Misys Participates in OHT?

OHT (Open Health Tools) is an open source community with a vision of enabling a ubiquitous ecosystem where members of the Health and IT professions can collaborate to build interoperable systems that enable patients and their care providers to have access to vital and reliable medical information at the time and place it is needed. As MOSS aims to deliver interoperable healthcare systems based on an OSS platform, they believe that their business objective is aligned with OHT's mission. OHT offers a worldwide influence and OSS collaborative development capability, thus providing potential interesting opportunities in the future. OHT enables healthcare software vendors to work collaboratively with each other, reuse open source components, avoid duplicated efforts and maximise their own resources.

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