
Comparison of core facility management system approaches: open-source vs SaaS

Core facilities (CF) are great assets for research institutions, representing an important share of their total budget. Efficient management of those CFs is therefore a major concern. Having an effective CF managing system (CFMS) is currently an unavoidable need, as these tools play an important role in optimising physical and human resources.

Currently, three possibilities are available for this implementation.

The first one is a self-developed solution. Many institutions started to develop their own online systems for CF management, but most had abandoned this approach due to high maintenance costs, rapid turnover of IT staff (rapidly prompting CFMS to be a legacy), and lack of comprehensive features to respond to all scenarios.

Open-source solutions can have the advantage of being free-of-charge and easily accessible. These are **great** solutions for A) **small communities** using software for purposes with little social impact (such as privacy, health, security and finances); or in situations of B) **software “for masses”**, such as Linux, Firefox, etc.

Yet, using open-source in A can lead to:

1. Branching, according to particular needs, and consequent mischaracterization of the product and sub-optimal management;
2. Unavoidable code redundancies and styles, making debugging a challenging exercise;
3. Sub-optimal performance and messy interfaces.

On the other hand, using open-source software developed as example B implies:

1. A team with expertise in all IT domains with the financial burdening it represents;
2. Hidden costs on maintenance and application progression;
3. That institutions assume the liability for GDPR, data integrity, and others.

A third approach for CFMS is a commercial one, often provided as a software-as-a-service (SaaS) solution.

SaaS is a method of software delivery that allows data to be accessed from any device with an internet connection and a web browser. In this model, software vendors host and maintain the servers, databases, and the source code underlying an application.

Currently there are many commercial solutions available, generally offering a more structured and robust product, and a dedicated team for customer support and development. One example is **Agendo**, a software that has been developed for more than 10 years by and for CF managers.

Agendo solution is focused on:

1. **Relieving scientists from billing and repetitive communication tasks** in research infrastructures;
2. **Enhancing the integrity of scientific data. For instance, it provides** a Data Management Plans module, as an extension of the initial package;
3. **Optimising HR (both scientists and facility staff) and expensive equipment.** A productivity increase of 10%, which is easily achievable, can represent a **10 fold** infrastructure/solution cost ratio;
4. Offering customer support in a timely manner, continuously working on **developing** features and refining the product delivery;
5. Providing a price-wise scalable solution **affordable to any setup size.**

In conclusion

Despite core facilities having well-defined workflows, a strong configuration capacity is needed to be able to fit all the scenarios. **Custom-made solutions** are now a rarity as they have a big direct or indirect negative financial impact. **Open-source** approaches can be a great solution for generic applications, scenarios where there is no need for major customisations, or for small projects. However, to meet the high demanding core facility management needs, an open-source solution can be quite expensive to maintain and to update. Hence, **SaaS** alternatives, such as **Agendo**, can be much more cost-effective, as they offer superior performance and provide a better response to the critical needs of scientific core facilities. The most sophisticated ones offer a professional interface, targeted features and, importantly, ensure liability, traceability and the possibility of a continuous development.

For further information, please contact info@agendoscience.com or visit www.agendo.science