Functional convergence in web–based IP Management Systems

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Professional IT support in modern patent and trademark departments is subject– as in many other sectors– to the developments of general IT trends. Historically IT systems were constantly fitted with greater functionality within one single program. The trend towards mobile work originated a new development, in which the functionality of a large program was split up into individual functionalities – what we now know as apps. The present whitepaper would like to go over this development and pave the way to future solutions for an even better IT-supported work in the field of industrial and intellectual property.

❖ IP Management System Development/Trend

IP management software systems are daily employed in IP law firms and IP departments in companies. They are used for the administration of industrial property rights, related processes such as contracts or inventions, and they simplify the daily work process.

At first many standalone systems were used simultaneously, including for instance:

- IP database systems
- Data import systems

- Document management systems (DMS)
- E-Mail/calendar systems
- Annuity payment systems
- Patent search systems
- Patent monitoring systems

Due to the deficiencies in the interoperability and to the limited functionality, monolithic systems became increasingly popular, that is, an attempt was made to integrate all functionalities from the different systems into one single system. Despite the advantages that such systems offered, their complexity and the associated IT resource requirements soon created the need for more flexible modular solutions. As a result, individual systems were outsourced in subsystems.

❖ Needs of law firms and companies

From the point of view of the user, it soon became apparent that the needs of IP law firms, on the one hand, and those of patent departments in the free economy, on the other, differ greatly when it comes to the detail. As mentioned, the requirements of the user in an IP law firm are not the same as those of the user in the IP department of a company. IP law firms need, for example, excellent automation features as well as flexible time registration options. Further requirements include not only good office products and a good groupware integration but also flawless interfaces with the Patent and Trademark Office. In addition, the option for several databases and/or locations should be present. Finally, the stability of an IP management software must be guaranteed and the access to the software must be available at all times.

From an industry perspective, however, user-friendliness, reporting functions, cost overview and inventor remuneration play a dominant role. Furthermore, database connectivity and data import need to be secured in order to facilitate data maintenance. Several security levels, including double-factor

authentication, must be available and the General Data Protection Regulation (GDPR) must be observed.

A greater advantage of subsystems lies in the flexible adaptation to the requirements of the client. At the same time the systems can be used both as client/server and as web-product/web-based information systems.

❖ Advantages and disadvantages of web-based systems

It is obvious that due to their advantages the trend points in the direction of web-based systems, although, if we take a closer look, we can also find disadvantages. A web-based system does not require either a time-consuming (client) installation nor additional local storage. The system is therefore centralized and the IT support easy to manage. The easily kept user interfaces do not always contain all the functions, but they normally allow a mobile access to the data from different terminals. Security levels such as SSL encryption are standard. Furthermore, updates are carried out automatically in the background.

However, depending on the functionality of the web server, all users are affected by technical problems when using web-based systems. Standard internet technologies are exposed to potential attacks, which may cause great damage. And although web security solutions are available, they can compromise the system functionality and at the same time the automation functions. As the size of subsystems increases, so do the different functions and consequently the complexity. In addition, the implementation of specific user requirements can prove to be complex or even impossible.

❖ Requirements for the ideal system

In spite of difficulties such as reliability, data protection and security, the popularity of web-based systems is growing. Customer-oriented systems should encompass all target groups and possess, inter alia, the following characteristics: be robust, secure, flexible, automatable and automatically updatable. Furthermore, simple interfaces, a perfect office integration, so many standardized user interfaces as possible, and, last but not least, low costs should also be added to the wish list.

To sum up IT trends can be described as follows:

- Web-based intranet systems (no time-consuming client installation)
- Integration of Active Directory Services/Single Sign-On
- Separation of data / Encryption
- Compliance with GDPR
- Standard database environment
- Two-factor authentication

❖ Overview – Possible future solutions

The greatest challenge lies in the fact that no manufacturer is equally good at each individual functionality area. As a result of that, a change in the cooperation culture of manufacturers – away from proprietary approaches and towards cooperative ones – should take place in order to reliably ensure an interoperability of the different system functionalities. Only then can the user make use of the best functions from the corresponding best providers in an IT ecosystem.

Summary: Solution approach for the future

- Functional integration of solutions from different providers
- Preparation of each product as "Master" of the infrastructure, i.e. by storage of access data of other products in their database and SSO
- Standard API/interface technologies
- Use of standard (XML) exchange formats in order to facilitate the data exchange through API
- Use of "Fail Save" approaches

An example of a product with such a collaborative approach is the system **Patricia® 6.0 (aka „Next")** from the Swedish manufacturer Patrix AB. It provides via an API a complete access to all the functions and the whole business logic as well as the integration of third-party systems through interfaces, which are:

- Extended Document Management System (EDMS) (by Pace IP)
- Patselect® Professional Patent Searches & Monitoring (by Serviva)
- Web-based interface for payment services, for instance Professional IP Services (PIPS by Patrix), PavisConnect (by Pavis)
- Further web-based interfaces, for instance accounting systems
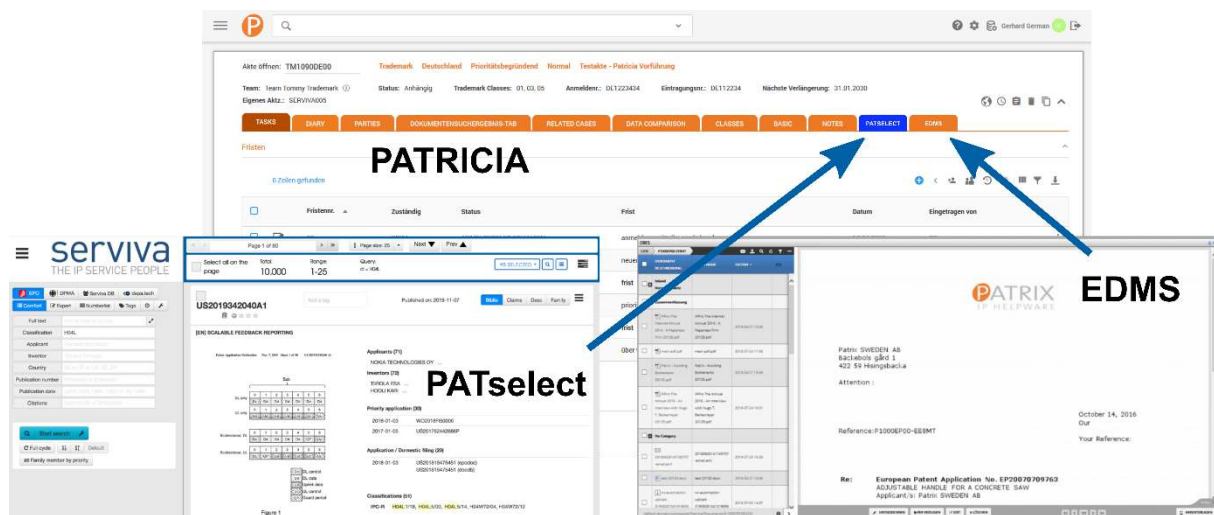
„The best system of the future is not a system, but the collaboration of the best functions from the best systems!"