Trends in information infrastructure of enterprises

Trendy v informační infrastruktuře institucí

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Abstract: This paper will focus on the development trends of enterprise information infrastructure which will take into account an effective management of institution as well as integration of the existing technologies and systems. A special focus will aimed at the new Smart Enterprise Suites (SES), which should provide for convergence and integration of the originally single systems as portals, content management and collaboration. The author presented part of these results also at the Agrarian Perspectives Conference 2005 in the applied informatics session.

Key words: SES, Content Management, Portal, Collaboration, development trends

Abstrakt: Příspěvek se bude zabývat rozvojovými trendy informační infrastruktury podniku, které zohlední potřeby efektivního řízení instituce s možností integrace některých stávajících technologií a systémů. Zvláštní pozornost bude věnována nově vznikající platformě Smart Enterprise Suite (SES), jejíž posláním je konvergence a integrace samostatných portálů, systémů pro Content management a systémů pro spolupráci. Autor presentoval část tohoto tématu na konferenci Agrární perspektivy 2005 v sekci Aplikovaná informatika.

Klíčová slova: SES, content management, portál, collaboration, vývojové trendy

Institutions with a matured level of its ICT services face the problem of the growing complexity of the overall IT architecture, whilst they have either gaps in the needed functionality or conversely the functionality of several sub-systems overlaps. The present e-workplace has typically a great diversity of users, user needs, systems and equipments. Gaps or overlapping of functionality results in increased demands and costs for the maintenance and development of such structures, besides the reduced users comfort. One way of how to reduce the necessary investments into the e-workplace is a consistent utilization of standards. That is why the big suppliers of basic components of the e-workplace (e.g. IBM, SAP, Oracle, Microsoft, etc.) try to find possibilities of convergence and integration of the currently independent and partially overlapping sub-systems. They come with an idea to offer a product, which will be an integrated "set" of functions, which were originally provided by independent products. This new product with the name "Smart Enterprise Suite" – SES provides services originally provided by enterprise portals, content management systems, knowledge systems and collaboration systems.

The objective of this paper is to describe development trends which lead to convergence of enterprise portals, content management systems, knowledge systems and collaboration systems, to describe the potential benefit of this new solution for users and expected course of implementation of this new technology. Gartner analytical studies provide us the basic source materials since we shall deal with the completely new and untested technology (Austin 2005; Eid 2005; Vrana, Richta 2005; Bell at al. 2004; Phifer at al. 2004; Shegda at al. 2004; McCoy at al. 2004).

CONVERGENCE OF ENTERPRISE PORTALS, CONTENT MANAGEMENT SYSTEMS, KNOWLEDGE SYSTEMS AND COLLABORATION SYSTEMS

Portals, team collaboration systems and Web content management systems historically developed as

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independent and mutually complementary applications. First portals were mostly oriented at information access than to creation of environment for the team collaboration. Nowadays, they enable to track, which user has an access to which information and on which conditions. They keep the information content available and enable its customization on the request of a user. Web content management systems were originally oriented to creation and administer an information content, e.g. how the document will look like, or who is entitled to create a document for a web. Now, they deal also with the questions how many authors co-operate on creation of the document, who approves it, how is it protected, archived, etc. At the same time, also the team collaboration systems were developed. But users do not want two separated systems, e.g. one for their own work and the other for an access to external information. Gradually (although slowly) each of the mentioned three systems amend the missing functions, which originally belonged to other systems. In this way, we are witnesses of the situation, when the same service is provided by several subsystems and that is why a chaos arises in administration and utilization of this service. Groupware services from Microsoft "office package" and similar services from the Novell GroupWise (and still further groupware services for PDA, e.g. from PalmOne) are a small example of this situation. As a result, the user should maintain the same data at several places and use different user interfaces for this purpose, because same services in different systems are not fully (or not at all) compatible or able to synchronize. According to Gartner analysts' forecast, the overlapping functionality of the considered three systems will cause that for individual independent categories, there will remain only 20 per cent of the market by the end of the year 2007.

It follows from what was said, that the SES solutions will contain functionality of the present portals, content management systems and collaboration systems. Moreover, the enhanced functions as workflow, searching, business intelligence, enterprise processes management, pattern recognition, support for taxonomy building, access from mobile devices, accordance with open architecture systems (SOA) and real-time collaboration will be added within 2–3 years. In spite of the SES ambitions to improve the possibilities of the effective work and institution management, the "business intelligence" sets will evolve and develop parallely. They will coexist with SES still long after the year 2008.

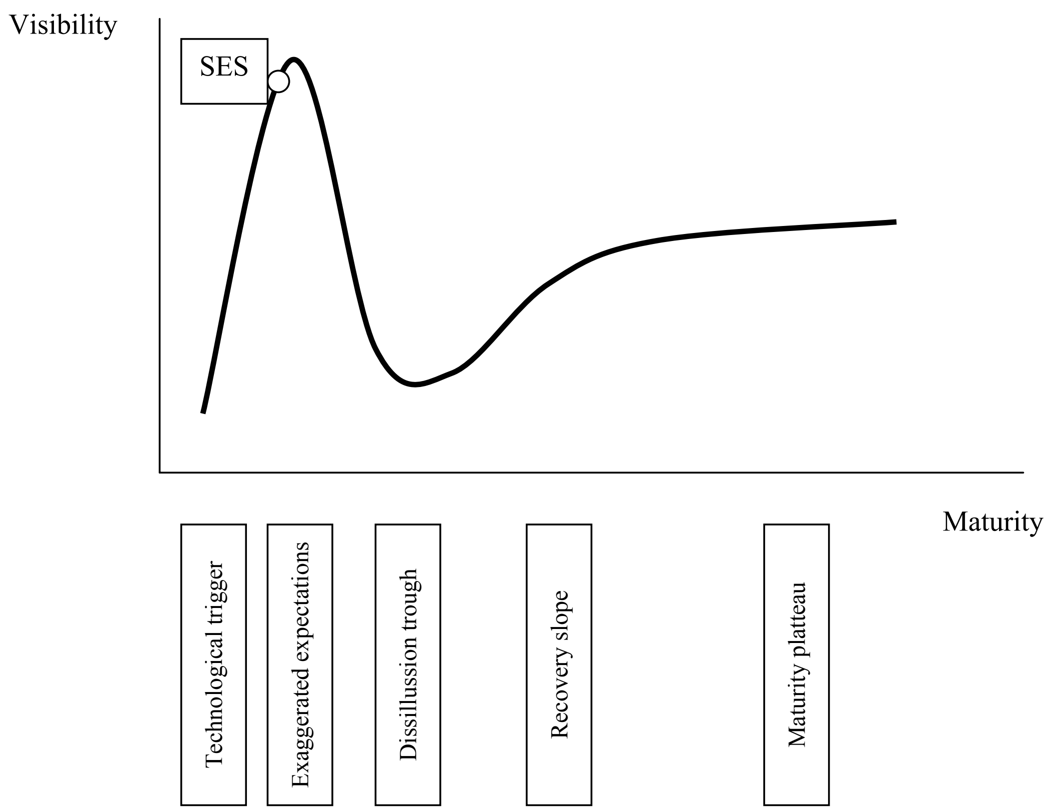

Figure 1. Hype Cycle graph and position of the SES

HYPE CYCLE GRAPH FOR SES

According to Gartner results from summer 2004, the SES is situated near the top of the Hype Cycle graph. The need to solve the problem of the excessive growth of complexity of the enterprise systems, the duplicity of various used subsystems and growing costs were the technological trigger for development of the SES. Another technological trigger was caused also by the expectations (particularly of the biggest suppliers) that they can win a greater portion of customer's budget when they will offer the SES set of services instead of the individual "point" products. Moreover, the SES offers to users a purchase of all necessary services "under one roof". No ready-made solution of SES is available yet, only the pilot or beta versions. Only later after the peak of the Hype cycle graph the first usable SES products will be available in the market. Later on, their second more advanced versions will occur. The SES should pass the HC curve and reach the maturity plateau during 2 through 5 years, according to Gartner analyses (Figure 1).

SUPPLIERS OF SES

At present, four vendors have the dominant position in preparation of the SES: IBM SAP, Microsoft and Oracle. The potential vendors build the SES around their well-proven applications or by a fusion with other vendors which have a leading position in corresponding functionality (so e.g. Oracle has bought PeopleSoft including its portfolio), or only through the integration of the selected third-party applications into the SES. Each of these vendors brings in its solution a mixture of the inherent strong and also weak aspects. IBM excels in a matured content management and its WebSphere is considered as the best portal. Lotus Workplace extends its capabilities in collaboration support. Microsoft with the Sharepoint portal and with an office oriented experience is focused at productivity of the team collaboration. They also have a good web content management, which is, however, limited at document management. SAP Netweaver is a strong infrastructure, it has a strong portal but a weak web content management and document management. Oracle has an above-average portal, Collaboration Suite product and they prepare introduction of a new product Oracle Content services.

Besides these large vendors, also several smaller specialized vendors deal with the SES issues, e.g. Vignette, Plumtree, etc.

According to Gartner magic quadrant, there are in the "leaders" sector: IBM (best), SAP, Vignette, Hummingbird, Open Text and Plumtree. In the "vissionairs" sector (which still do not have fully operational solutions), there are Oracle and also Computer Associates. Gartner mentioned only Microsoft in the "challengers" sector. A number of vendors is in the "niche players" sector, e.g. PeopleSoft, Novell, Sun Microsystems, BEA, etc.

It is possible to build SES in several ways, as follows:

(a) Purchasing SES at a single vendor.
This has an advantage that the whole solution takes advantage of the unified logic, which guarantees a real integration of the SES services, it enables standardization of the vertical specialized applications, decreases overall costs and speeds up implementation. Dependence on a single vendor is a disadvantage.

(b) Composing SES from applications, which are the best in the given category.
This brings an advantage of a flexible solution which can be affordable according to needs and financial possibilities of an institution. It also supports a principle of cooperation between vendor and user (in contrast to a full dependence on a single vendor). The level of integration of individual applications and services remains problematic. They should be individually matched to each other (if possible). The demands on implementation pro-cess are very high.

(c) Mixed approach.
Institution purchases only a core from the SES vendor, which is then completed by the own proven applications. This provides possibility of lower dependence on a single vendor at the cost of higher financial and implementation expenses.

CONCLUSION

The SES will not be a proper solution for all types and sizes of organizations. At present, it is a challenge for "early adopters" organizations, which in spite of the relatively high risk of a failure and a temporary high cost of the SES can reach a competitive advantage by its timely deployment. After the year 2006, when SES will reach a higher degree of maturity and its price will decrease, the SES will be an interesting and useful solution in comparison to isolated applications also for other institutions.

From institutions, which will employ the SES by the year 2007, 80% will employ their SES gradually, step-by-step, trying to take advantage of applications with a proven functionality.

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