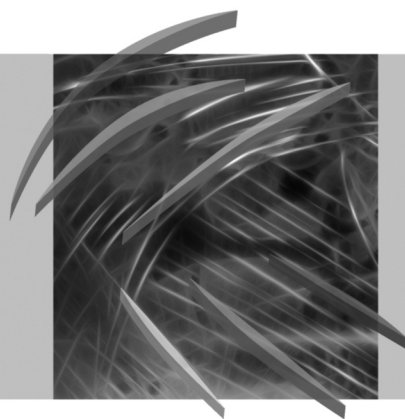


Advanced Information Technologies for Management – AITM 2011 Information Systems in Business



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This publication is available at www.ibuk.pl

Abstracts of published papers are available in the international database The Central European Journal of Social Sciences and Humanities <http://cejsh.icm.edu.pl> and in The Central and Eastern European Online Library www.cceol.com

Information on submitting and reviewing papers is available on the Publishing House's website www.wydawnictwo.ue.wroc.pl

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Wrocław 2011

ISSN 1899-3192

ISBN 978-83-7695-178-2

The original version: printed

Printing: Printing House TOTEM

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SUPPORTING THE MANAGEMENT OF A COMPANY INFORMATICS INFRASTRUCTURE WITH APPLICATIONS OFFERED IN THE FORM OF E-SERVICES

Abstract: The paper presents a model of managing a company informatics infrastructure with the help of applications available in SaaS form. The introductory section briefly discusses the problematics of informatics infrastructure management in companies. Then, SaaS model is discussed as a form of an e-service which provides remote access to software. Main advantages and drawbacks connected with this form of utilizing applications are pointed out. The final part of the paper contains a list of domestic and foreign applications available in SaaS form, which might be found useful in supporting the management of informatics infrastructure in companies.

Keywords: SaaS model, informatics infrastructure management.

1. Introduction

Nowadays, economic organizations are becoming more and more interested in supporting their business activity with various tools and means associated with information and communications technologies. It is mainly due to the role and significance of information necessary to make the right management decisions and a constant search, by managers in a company, for tools and methods which would automatize, integrate and facilitate the course of business processes in economic organizations. All of the above mentioned factors, together with the launch of various management methods and techniques based on information technologies, contribute to a dynamic increase in the implementation of various types of informatics solutions in companies.

Informatics infrastructure encompasses the entirety of equipment, software, equipment-software, as well as network and telecommunications resources utilized in a company. Because informatics infrastructure constitutes an exceptionally important (and usually a very expensive) part of company resources nowadays, it should be managed effortlessly and efficiently. Crucial tools supporting the management of

informatics infrastructure nowadays are various types of specialist applications often utilized by the staff of the IT department in a company. Presently, many applications available on the domestic and foreign markets are offered in the form of e-services (Software as a Service). The paper aims to discuss the possibilities in supporting the management of informatics infrastructure with applications offered within the framework of SaaS model. In order to fulfil this aim, the problematics of informatics infrastructure management in companies has been briefly introduced. Then, the nature of applications offered in the form of e-services has been highlighted. In the final part of the paper there has been given a list of domestic and foreign applications made available in SaaS form, which may support the management of informatics infrastructure in companies.

2. An outline of the problematics of informatics infrastructure management in a company

Nowadays, the informatics infrastructure is becoming an important factor responsible for changes within the organization and functioning of business enterprises. At the beginning of the third millennium, frequently referred to as an epoch based on knowledge, the appropriate choice of teleinformatic solutions often determines the efficiency and competitiveness of a company on the market. In many cases, it would be difficult, or even impossible, for a company to gain a competitive advantage (or even retain its present position on the market) without actively utilizing complex, advanced (and often expensive) teleinformatic tools and measures. Various information technology (IT) solutions allow companies to optimize business processes, support managers and specialists in decision-making processes, improve communication with customers, suppliers and business partners, as well as facilitate engaging in new forms of market activity (e.g. e-business, virtual organization). As a result, the important role played by IT tools and measures, as well as the large share they have in a company's expenditure, calls for the necessity to efficiently manage informatics infrastructure in companies.

Dynamic technological development, shortening lifecycle of IT products, variability, complexity and advancement of available information technology solutions, as well as constantly growing requirements of their users, are the reasons why informatics infrastructure management in companies is becoming more and more complicated. A growing number of solutions which make up informatics infrastructure are associated with growing costs connected with their purchase, maintenance and development in a company. Efficient and successful management of informatics infrastructure should not only mean that a company will rationally manage its financial outlays for IT solutions, but also improve the company's organization and its position on the market. Therefore, the efficient management of informatics infrastructure is supposed to facilitate optimal utilization of IT tools and measures in order to achieve

a company's goals. It is necessary that the economic (mainly strategic) goals of a company be integrated with various tools and measures of informatics infrastructure, which should be carefully selected as regards their effectiveness, efficiency and reliability. Efficient management of a company informatics infrastructure ought to facilitate a quicker, easier and less costly achievement of the company's business objectives. Thus, in general terms, it may be stated that the management of informatics infrastructure is a systematized and complex process of purchase, installation and configuration, utilization, servicing, modernization and liquidation of teleinformatic resources, realized in an optimal way with regard to cost efficiency, and properly adjusted to the needs of a company in the sphere of achieving its business objectives.

Nowadays, one of the most important and most complex and well-developed approaches in the sphere of informatics infrastructure management is IT Governance. Usually, IT Governance is defined as an organizational order in informatics infrastructure management and encompasses all activities connected with designing, controlling and proper functioning of the information technology environment in an organization [Orzechowski 2008]. The aim of IT Governance is not only to obtain maximum benefits from utilizing information technologies but also to support, with the help of tools and measures of informatics infrastructure, the present and future business objectives and business strategy of a company. Within the framework of IT Governance there are problems and suggestions regarding the organization and functioning of an IT department (e.g. in the sphere of its structure, processes, models, tools and utilized IT resources), which ensure the highest effectiveness and efficiency of information technologies utilized in a company. IT Governance strives to introduce the so-called best practices in informatics infrastructure management, to build up trust in owners and shareholders with respect to managers who responsibly manage the sphere of information technology in a company, and to minimize risk connected with the implementation of teleinformatic tools and measures. The most important areas connected with IT Governance are further described in Table 1.

The outlined areas of IT Governance define directions of necessary activities which are crucial for efficient and successful management of informatics infrastructure in companies. An especially important feature of IT Governance is the fact that it enhances the understanding of the company management about the crucial role played by teleinformatic solutions in achieving business objectives of the company, as well as the fact that it highlights the necessity of cooperation of the IT department with the management (at the strategic level), as well as with other departments, and finally, the fact that it provides a methodology facilitating an evaluation of the tools and measures of informatics infrastructure which are being utilized or are planned to be utilized by the company.

The problematics of informatics infrastructure management is characterized by a high level of complexity, multi-sidedness and interdisciplinarity. Apart from the IT Governance approach, there are also other methodologies which discuss the problematics of informatics infrastructure management, e.g. ITIL, COBIT, Val IT, CMMI.

Table 1. Major IT Governance areas

IT Governance area	Description
Strategic adjustment of IT to business	The process of ensuring constant, complex and close correlation between the already utilized and the newly purchased information technologies and the company's business strategy. The symbiosis of IT and a business strategy requires an understanding concerning the directions of company development and precise decisions with regard to how various tools and measures of informatics infrastructure will be useful in supporting such development.
Value delivery by IT	It consists in the application of appropriate information technologies with respect to their number, quality and cost, which will affect the achievement of the crucial prospective business benefits (e.g. increasing the level of sales, shorter time of product/service delivery to the customer, increasing customer satisfaction, improving the efficiency of employees, increasing profitability), often providing an opportunity for improving a company's position on the market or increasing its competitive advantage.
Management of IT resources	Effective and successful utilization of the information technology potential and the knowledge and skills of employees working in a company's IT department in order to fulfil the needs of a company and to perform required business processes in the best possible way. Optimal purchase and allocation of equipment, software, databases, teleinformatic networks and other electronic devices, as well as acquiring well-qualified, responsible and development-oriented IT staff is a factor determining the final success of a company's informatization.
IT risk management	It refers to the identification and minimization of undesirable events which might spring up within the sphere of information technology and which affect, or might affect, the current and future operations of a company. Generally, the problematics of risk management in the sphere of information technology refers to the identification of IT risk factors, as well as risk assessment and risk prevention and monitoring. For instance, within the scope of IT risk management there lie the activities which protect information technology resources, ensure the continuity of their functioning and post-breakdown restoration, the evaluation of dangers associated with an implementation of the newest IT measures and tools, the identification of responsibility for decisions which have been made, etc.
Measurement of IT efficiency	An analysis and evaluation of completed projects with reference to the implementation of information technology and monitoring the quality of IT services provided to a company. The manner of evaluation of IT efficiency may be easily measurable (e.g. comparing, in various companies, the level of financial outlays on IT against a company's revenue, the comparison of cost of the IT staff against the cost of all staff, etc.), and not so easily measurable (impossible to compare between companies due to a specific character and role played by IT in a company's business activity; e.g. the degree of fulfilling customers needs by an implementation of an IT project, the degree of adjustment of the utilized IT to a company's business strategy, etc.). Nowadays, a tool which is more and more frequently utilized in order to measure the IT efficiency is the Strategic Balanced Scorecard, which evaluates information technologies from the following four key perspectives: customers, business and financial value, internal business processes and a learning and growth perspective (knowledge and innovation).

Source: own work based on [Orzechowski 2008].

The problematics of informatics infrastructure management is characterized by a high level of complexity, multi-sidedness and interdisciplinarity. Apart from the IT Governance approach, there are also other methodologies which discuss the problematics of informatics infrastructure management, e.g. ITIL, COBIT, Val IT, CMMI. Informatics infrastructure management may also be viewed from the angle of phases listed in the Technology Lifecycle Management as an effective and successful process of planning, acquiring, implementing, utilizing, controlling, servicing, perfecting and disposing of teleinformatic solutions in a company [Lotko 2002; Dziembek 2010a].

3. Software supporting the management of informatics infrastructure in a company

The complexity of tasks connected with informatics infrastructure management have contributed to developing applications which support such functions of the IT department as planning, purchasing, implementation, exploitation, monitoring and development or disposal of IT tools and measures. Applications which support the management of informatics infrastructure have a considerable functional range, which allows, for instance, to keep a record of IT tools and measures with respect to their type and cost, to register the rules of licensing, to archive information connected with servicing, updating and modernization, as well as agreements signed with IT suppliers. Furthermore, the software supporting informatics infrastructure facilitates searching for equipment, software, and network tools dispersed across various locations or various branches of an organization. It also allows to specify in detail the configuration of equipment and teleinformatic components and to prepare various reports and analyses (e.g. regarding the total cost of information infrastructure, areas where the IT tools and measures are utilized excessively or insufficiently, etc.). As a result, the utilization of software supporting the management of informatics infrastructure may be helpful for IT services in providing a complete and up-to-date picture of the state of informatics infrastructure in a company and automatizing the performance of some activities connected with administration. A prior identification of the principles regarding the management of IT resources in a company is a condition which has to be fulfilled in order to enjoy the efficiency and usefulness of applications supporting the management of the company's informatics infrastructure. These principles ought to be based on the best practice and methodology approved by prestigious organizations operating in the IT sector (e.g. IT Governance, ITIL).

In the light of everything that has been said above, it is clear that applications supporting the management of informatics infrastructure possess a considerable level of functionality. As a rule, supporting the informatics infrastructure of a company requires the implementation of the following types of software:

Recording and tracking IT resources – the software tracks the distribution of teleinformatic resources and registers changes taking place in those resources. It is specialist software detecting, localizing and making an inventory of IT resources utilized by a company. It is often equipped with on-board mechanisms registering and gauging the intensity of usage of particular components of informatics infrastructure. Its functions may include registering the programs started and web pages visited by a user, monitoring the operations performed by a user, verifying the legality of utilized software, etc. Furthermore, this type of software allows to identify the history of changes that have been taking place in IT resources from the instant of purchase, through installation and functioning until disposal, and also to track changes in their configuration (record of repairs as well as instances of unauthorized interference by users). It also facilitates assigning particular IT infrastructure components to particular users, control the guarantee periods for software and hardware and the expiry dates of software licenses. What is more, the software may also map all the elements which constitute the informatics infrastructure of a company. Finally, advanced functions of generating reports and charts allow to notify authorized persons within a company about changes taking place in its IT resources. Examples of applications representing the type described above include: e-audytor, AuditPRO, Axence nVision, Evida Standard, LANCenter 2010 (LC_Inventory), LANDesk (Management Suite, Asset LifeCycle Manager), PCinfo MagicEYE, Resource Analyzer, Statlook, Tivoli Application Dependency Discovery Manager, IBM Tivoli Configuration Manager, IBM Tivoli License Manager.

Remote informatics infrastructure management – software encompassing tools which facilitate and automatize activities of IT department employees connected with the management of IT resources. The software enabling remote management facilitates installing and updating system software and utility software on many computers which are often situated in various geographical locations, analyzing and controlling the functioning of hardware as well as applications (journal analysis), sending and moving files, workplace parameterization, generating system images, remote switching on/off of computers, activating services and scripts, etc. An important function of these applications is the possibility of managing the load and efficiency of particular informatics infrastructure components. Remote administration tools allow for proactive and centralized performance of many repetitive (or incidental) activities of IT services, eliminating potential costs and reducing the amount of time required for their completion. The examples of such applications include the following: e-audytor, Statlook, IBM Tivoli Remote Control, IBM Tivoli Provisioning Manager, IBM Tivoli OMEGAMON XE, Axence nVision, LANCenter 2010 (LC_VNC), LANDesk (Management Suite).

Monitoring and protection of IT resources – software encompassing tools which enhance the level of safety of informatics infrastructure in a company. Applications of this type allow to check the availability and functioning of selected elements of informatics infrastructure (e.g. servers, programs, services, web pages), con-

duct complex database and document archiving and block the possibility of utilizing USB devices (especially portable discs) and other important peripheral elements of a computer (e.g. CD/DVD recorders, Wi-Fi cards, modems). Furthermore, the software utilized for protecting IT resources may detect gaps in the security systems, protect against malicious software (viruses, spyware, root-kit), block selected web pages, block the start of potentially harmful programs, as well as limit access to selected files or system services. The software which protects IT resources may also gather information about all operations performed on the hardware, which is important from the point of view of data safety in a company (e.g. detect unauthorized access) and automatically grant and distribute access authorizations to company employees. The following exemplary applications can be included into this group: Axence nVision, e-Audytor, LANCenter 2010 (LC_Firewall, LC_ACL_Security Manager, LC_Services, LC_APP Manager, LC_Event), LANDesk Security Suite, Statlook, IBM Tivoli Enterprise Console, IBM WebSphere Studio Application Monitor, IBM WebSphere Business Integration Monitor.

IT service management for problems with software and hardware (help desk)

– applications used for support and solution of problems reported by final users. Help desk applications facilitate the registration of service notifications and tracking the process of problem solution (they may be especially equipped with a knowledge base for this purpose). Help desk software is utilized, first and foremost, to solve current problems of users, thus positively affecting the speed and cost of providing servicing. Tools of this type are often equipped with the function of remote viewing of the user's screen and the chat function which is helpful while providing distance servicing to the user. Examples of this type of applications include: LANDesk Service Desk, PCInfo MagicDESK AuditPRO, Statlook, Peregrine Service Center, HP OpenView.

Managing IT resources of a company – software which encompasses applications for collecting all kinds of data connected with financial aspects (e.g. budgeting, cost control, forecasts), logistic and marketing aspects (contact details of major hardware and software suppliers as well as specialists, e.g. IT engineers, analysts, implementation specialists, service providers, and the scope of competence of each, opinions about suppliers, discounts offered by suppliers, etc.), legal aspects (IT agreements, agreement negotiations) connected with the IT tools and measures utilized in a company. Data collected in databases at the level of recording the IT resources become supplemented by providing detailed information about, for example, the purchase of equipment (including spare parts), acquisition of software licenses and the cost of service, modernization and maintenance. If the applications have on-board tools for generating reports and analyses they may provide valuable help in the sphere of decision making to the IT department of a company. This type of applications is exemplified by the following: IBM Rational Portfolio Manager, IBM WebSphere Extended Deployment, LANDesk Management Suite, Statlook, e-Audytor.

Utilizing the above discussed tools contributes not only to the acquisition of information about the state of informatics infrastructure resources but also allows to

automatize the performance of some administration activities and facilitates making decisions about directions of further development of IT resources in a company. Advantages associated with the implementation of applications supporting the management of informatics infrastructure in a company, highlighted in subject literature by suppliers of this type of software, include the following:

- providing current and historical information about the state of informatics infrastructure, which facilitates the rational decision-making with regard to the present allocation of IT resources as well as future purchasing of hardware and software,
- providing a possibility of proactive management of IT resources (especially quick detection and elimination of damage or problems as well as foreseeing and preventing crisis situations), which is conducive to increased efficiency and quality of users' work,
- lowering costs generated by informatics infrastructure thanks to the knowledge about expenses borne in the course of the whole lifecycle of a product (including the possibility of budgeting and forecasting) and due to better planning and making better use of the hardware, software and human resources in a company,
- improving the efficiency of functioning of the IT department in a company thanks to the centralization of management processes regarding IT resources (including mechanisms of remote administration and help desk), which contributes to a better access to and safety of informatics infrastructure and facilitates decision-making processes in the IT department (e.g. by providing quick access to electronic forms of IT agreements, data specifying the time, type and results of decisions made in the sphere of IT, alerting about deadlines for license renewal or expiration of guarantees, or leasing agreements, etc.),
- facilitating the management of supplies by providing detailed knowledge about the state of the IT resources at the company's disposal, which allows to avoid an unnecessary purchase of hardware or software.

The software supporting informatics infrastructure management is systematically developed and supplemented by new applications. Among these we may include communication supporting systems as well as IT systems which support knowledge management among the employees of an IT department (e.g. systems of document circulation, systems supporting team work and facilitating workflow, intranet, corporate portals, blogs, discussion forums, videoconferences, e-learning systems, etc.).

4. Applications offered in the form of e-services supporting the management of informatics infrastructure in a company

Development of information and communications technology, growing Internet bandwidths, popularity of information outsourcing and growing competition on the IT market have contributed to the appearance of new opportunities for purchasing

and utilizing software by modern companies. Presently, an interesting and dynamically developing form of access to software and its exploitation as an e-service is the so-called SaaS (Software as a Service) model, whose popularity has been growing in the recent years. The forecasts of many companies providing consulting services indicate that in the near future this model will be one of the most important forms of software distribution utilized by companies.

Generally, Software as a Service (SaaS) is a business model of sale and delivery of applications and associated services by software producers, which offers customer an opportunity for remote exploitation (via the Internet) of an information system without a necessity to buy a license, while the payment for all provided services is made in the form of a subscription fee. The implementation of SaaS model allows to avoid the necessity to purchase and develop a hardware platform (server) by the customers, because the utilized applications are located in special Data Centres belonging to the software supplier (or an entity cooperating with the supplier). The exploitation of applications in SaaS model requires only the presence of computer sets (stationary computers, laptops, palmtops and other devices) with an Internet access, which are necessary for data input and/or display. The communication interface between the customer and the utilized software is an Internet browser. The access to applications and associated services can be obtained by going to a specified web address and filling in data of the user together with a password that has been assigned to them [Dziembek 2010b].

The present range of applications offered in SaaS form is very varied and encompasses both simple communication systems and more or less complex recording systems, various types of specialist systems and sector systems, as well as complex integrated ERP-class systems. It should be highlighted that the supplier of a SaaS model bears full responsibility for the proper functioning of an application, i.e., is in charge of its installation, modification, provision of technical support and servicing, as well as the access to the software. The amount of fees payable for applications utilized in the form of e-services depends on the length of exploitation period and the functional scope of the leased information system.

SaaS model is a comparatively new form of providing companies with an access to software. Although it has many advantages, it is not entirely free from drawbacks. Based on available subject literature and the author's own observations, the comparison of advantages and disadvantages connected with utilizing applications within SaaS model is displayed in Table 2.

Presently, there is available a group of applications offered by domestic and foreign suppliers in the form of e-services, which may be useful in supporting the management of informatics infrastructure in a company. In Table 3, various types of software are listed. The list has been compiled as a result of analyzing domestic and foreign websites. The listed applications, which may support various areas of informatics infrastructure management in a company, are divided into groups which have been discussed above. In some cases the functionality of featured applications

Table 2. Advantages and drawbacks of the SaaS model

Software as a Service	
Advantages	Drawbacks
<ul style="list-style-type: none"> – no need to buy costly equipment and software (low cost of launching) and maintain specialist rooms, – no need for the user to install the software, – relatively lower cost of acquisition, maintenance and development of IT resources, – larger predictability of costs connected with IT, – quick access to an application from any place, – simplicity of utilizing the software (an Internet browser constitutes the interface), – fewer employees are needed in the IT department, – reduction of risk connected with investing in information and communications technologies, – a high level of scalability and efficiency of the applications made available, – the supplier bears the responsibility for enhancing the software and its proper functioning, – high level of security (redundancy, encoding), – professional technical support and service provided by the supplier, – an opportunity to utilize software which so far has been reserved exclusively for large organizations. 	<ul style="list-style-type: none"> – an Internet breakdown renders it impossible to use the IT resources, – partial or complete dependence on the supplier, – some difficulties may be encountered in the sphere of adapting the IT resources to the needs of customers and migrating data, – high cost of broadband Internet access, – limited possibilities in the sphere of integrating local and external applications, – a possibility that temporary drops in efficiency will occur, – some problems connected with anxiety about the safety of data which is collected and processed, – a probability that legal problems may occur (e.g. because of differences between legal provisions in various countries, unfavourable contractual provisions, no established procedures in case of problems, etc.).

allows to assign them to more than one group of systems supporting the management of informatics infrastructure. Thus, the individual sections of the table below should not be considered separately. It is also noteworthy that the catalogue of applications made available within SaaS model is constantly expanding, and this refers also to such applications which may support the management of informatics infrastructure of a company. Table 3 presents some applications supporting the management of informatics infrastructure in a company which are available in SaaS form, taking into account both domestic and foreign suppliers. Solutions available in the English version are marked with italics.

Table 3. Domestic and foreign SaaS applications for supporting the management of a company informatics infrastructure

Name of application/ Producer	Scope of support provided in the management of informatics infrastructure in a company
Recording and tracking IT resources	
<i>IT Asset Management/ SAMange</i>	The application facilitates the recording of data connected with hardware and software components of informatics infrastructure (state, localization, configuration, utilization).

Table 3. (cont.)

Name of application/ Producer	Scope of support provided in the management of informatics infrastructure in a company
<i>Riptide TRAX /Riptide Software</i>	The application is used for recording and controlling data regarding the licenses for various types of software; it allows for graphic representation of results.
	Remote informatics infrastructure management
e-Integrator/STORIO	The application allows for remote management of the IT environment by automatizing the operation of informatics infrastructure.
Netviewer Admin/Netviewer	The application allows for remote management of servers or stationary computers and laptops regardless of their location.
NTRadmin/LANtek.pl	The application allows for remote management of servers or stationary computers and laptops regardless of their location. It is equipped with on-board programmable agents (boots) for automatic network configuration, increasing efficiency of IT processes and management of network safety and efficiency. It enables automatic installation of patch software for software utilized by computers in the whole network.
<i>Beetil /Beetil</i>	The application supports problem solving, changes in the configuration of IT resources and management of IT services; it is based on ITIL.
<i>BeAnywhere Support Express /Multiplicar Negócios</i>	The application for remote control and management of IT resources, equipped with a chat and an fp; it generates reports from performed activities.
<i>Backup and Disaster Recovery (BUDR) /Kaseya</i>	The application for data backup as well as full disc and system imaging.
<i>Patch and Upgrade Management /Kaseya</i>	The application for fully automatized provision of patch software for various types of software.
<i>IT Department Edition / Kaseya</i>	The application for remote analysis and management of geographically dispersed information resources.
	IT service management (help desk)
NTRsupport PRO/LANtek.pl	The remote support application providing services in the sphere of solving problems connected with utilization of IT systems.
Netviewer Support/Netviewer	The application for remote servicing and solution of problems connected with utilization of IT systems.
ExpertDesk/Mansystems Polska	The support application for servicing a company's own employees.
<i>Techinline Remote Desktop /Techinline Ltd</i>	The remote support application providing assistance to network administrators.
<i>Zoho Assist /Zoho Corporation</i>	The application which facilitates the connecting and managing of computers and servers as well as software installed on them.
<i>Help Desk/Elementool Inc.</i>	The application supporting user servicing, which facilitates problem prioritization and assignment of particular connections to particular specialists; it has the function of report generation.
<i>IT Service Management/ SAManage</i>	The application which offers help desk services to users as well as the possibility of creating a knowledge base for the solved problems.

Table 3. (cont.)

Name of application/ Producer	Scope of support provided in the management of informatics infrastructure in a company
Monitoring and protection of IT resources	
e-Integrator/STORIO	The application which allows for monitoring and control of the most important processes in the IT environment while retaining the continuity of work of selected elements. It allows for early reaction and counteraction in case of various breakdowns and threats. It also allows users to perform a data backup.
WatchScript/Idego	The application checks availability and monitors the performance of web pages, servers and Internet applications. In case of problems the application automatically informs about a breakdown sending a notification to previously selected persons either by e-mail or by a text message, providing necessary diagnostic data.
QualysGuard Policy Compliance/IMNS	The application for defining, auditing and documenting the IT security compliance. It supports the process of compliance policy implementation and provides continuous control of compliance with internal and external regulations in force.
QualysGuard Vulnerability Management/IMNS	The application for risk management in the sphere of IT safety. It proactively detects and eliminates system vulnerability which might result in a lack of immunity against dangerous attacks.
McAfee SaaS/McAfee	The system of protection of workstations, electronic mail and Internet browsers. It analyzes safety gaps within computer systems.
E-Backup/Ogicom	The application for performing an online data backup on secured and encoded servers.
SuperSafe/Total Safe	The application for performing an automatic online data backup.
edysk.pl/epartner.pl	The application for performing an online data backup.
iBard24 Backup Online/	The application for performing an online data backup and data archi- vization.
TotalBackup/Total Safe	The application for performing an online data backup. Data is encoded and transferred in a safe way.
STORIO MozyPro/ STORIO	The application for performing an online data backup.
<i>Online File Storage/ Box.net</i>	The application for archiving various types of data, which enables sharing the data with authorized users.
<i>Email Archiving /Sonian</i>	The application for e-mail archiving in a company.
<i>Monitorius /Monitorius</i>	The application for monitoring the status of servers and web pages with a mechanism of notifying about problems (via text messaging, e-mail, or an Internet communicator).
<i>System Shepherd /Absolute Performance</i>	The application allows for monitoring the efficiency of various types of information systems and collects information about all occurrences within the system; it possesses an extensive mechanism of reporting and alert-sending in order to notify about potential problems.
<i>DataCenter Monitoring/ LogicMonitor LLC</i>	The application for monitoring the physical and virtual informatics infrastructure, i.e. various types of software and servers.
<i>LogLogic Portfolio/ Loglogic</i>	The application for collecting and analyzing safety log books for IT resources (e.g. databases).
<i>Assuria Log Manager / Assuria</i>	The application assures secure data storage and the analysis of logs generated by various types of software and hardware.

Table 3. (cont.)

Name of application/ Producer	Scope of support provided in the management of informatics infrastructure in a company
<i>TruComply/ TruArx</i>	The application which supports risk management and gathers documentation about the agreed regulations in the sphere of protection of IT resources; it checks whether the regulations are complied with.
<i>AlertBot Website and Server Monitoring/ AlertBot Website & Server Monitoring</i>	The application for monitoring web pages and Internet servers which collects data about efficiency and notifies (via e-mail, text messaging, automatic telephone notifications) about the occurrence of any problems with their functioning.
<i>TrustSaaS/TrustSaaS</i>	The application for monitoring IT resources, equipped with mechanisms of notification (e-mail, text messaging).
<i>Website and Application Performance Monitoring/ WatchMouse</i>	The application for testing and monitoring the performance of and access to web pages, services and programs.
Managing IT resources of a company	
<i>IT Asset Tracker/ WorkXpress</i>	The application for storage of financial data concerning IT resources (e.g. regarding purchases, modernization, servicing).
<i>VendorRisk/ Skeye Interactive LLC</i>	The application which allows for tracking vendors and contracts, as well as the management of associated IT resources and services.
<i>IT Asset Management, IT Contract Management, SAManage</i>	The application for complex management of IT resources, e.g. the analysis of resources owned by a company and the location of software and hardware elements of its informatics infrastructure, the control of costs connected with purchasing and servicing, license management, professional audit of IT infrastructure which assesses the compliance with accepted regulations.
<i>EZasset Business Asset Management/ EZasset</i>	The application for the management of IT resources and business processes which allows for browsing through and searching for particular resources, reporting and servicing management.
<i>ContractsManager / StellaFire Technologies Corporation</i>	The application which facilitates contract management, e.g. gathering documents referring to agreements and negotiations, browsing through and seeking out data, notifications, etc.
<i>Ceboa - Online Productivity Tools for Small Business/ Ceboa</i>	The application which supports business contact management (e.g. contacts with suppliers), records and controls financial outlays on IT resources and facilitates storage of various types of data (e.g. texts of agreements, audio files with recorded negotiations, etc.).

5. Conclusions

Nowadays, a plethora of tools and measures of informatics infrastructure are utilized to a still greater extent by companies in order to improve their efficiency, competence and success of their business processes. The growing cost of purchase, maintenance and development of IT resources, as well as their still greater significance and increasing role in business activity force entrepreneurs to tackle the problem of proper informatics infrastructure management. Proper management of complex, heterogeneous and often vast informatics infrastructure requires the implementation of appropriate applications supporting the management of various teleinformatic tools

and measures. Presently, some applications supporting informatics infrastructure management can be acquired in the form of an e-service. Applications offered within the framework of SaaS model, whose popularity is still growing, allow to support various areas of managing the informatics infrastructure of a company easily, rapidly and comparatively cheaply.

Nowadays, also in Poland there is a group of applications available in the form of an e-service, useful in supporting the management of informatics infrastructure in a company. A majority of firms in the field of research and consulting (e.g. Gartner, IDC) forecast a dynamic increase in the number of applications offered in SaaS form in the nearest future. For instance, according to Gartner the global income of SaaS market will exceed USD 14 billion in 2013, while IDC forecasts that by 2014 access to software and hardware resources offered in the form of e-services will be an element of business reality in virtually every company. It should be expected that some of the newly designed SaaS software for companies will offer support in informatics infrastructure management, thus successfully and effectively replacing, or supplementing, the support tools presently utilized by companies.

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WSPOMAGANIE ZARZĄDZANIA INFRASTRUKTURĄ INFORMATYCZNĄ PRZEDSIĘBIORSTWA APLIKACJAMI OFEROWANYMI W FORMIE E-USŁUG

Streszczenie: W artykule przedstawiono zarządzanie infrastrukturą informatyczną przedsiębiorstwa przy zastosowaniu aplikacji dostępnych w formie SaaS. Na wstępie pokrótce przedstawiono problematykę zarządzania infrastrukturą informatyczną w przedsiębiorstwach a następnie przedstawiono model SaaS jako formę zdalnego dostępu i eksploatacji oprogramowania jako e-usługi, wskazując główne korzyści i zagrożenia związane z tą formą użytkowania aplikacji. W końcowej części zaprezentowano listę krajowych i zagranicznych aplikacji dostępnych w formie SaaS, które można zastosować do wspomagania zarządzania infrastrukturą informatyczną w przedsiębiorstwach.