CLOUD-BASED ARCHITECTURE OF A BANK

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Relevance of the subject. System integration of databases and data warehouses for banking information based on object relational and NoSQL data model and cloud technologies today is the objective need to collect and store and transform big data volumes, providing the functionality for rendering of services and reporting according to regulatory requirements.

The requirements for the calculation of capital adequacy and risk weighted capital in line with standards of Basel ll, Basel lll, Forbearance – requirements on managerial reporting on non-performing and restructured debt with evidence of financial difficulty of borrowers, FATCA – financial monitoring and reporting on assets of US residents overseas and AML requirements to build reporting systems, blacklists to prevent money laundering is not a complete list of requirements that determine the objective need for the implementation and integration of databases and data warehousing systems and computer support solutions for banking automated systems, including cloud applications [1; 2].

Providing all of these requirements, subject to a high level of efficiency of hardware resources and, at the same time, ensuring savings in operating expenses determines the relevance for implementation of cloud based and open source software solutions in database management systems for bank information.

No need to analyze TCO model for information products and technologies to understand that the future is in the transition to cloud IT solutions with open source. Nowadays the industry forming international bank Barclays announced reduction of their IT costs of development of new software applications by 90 percent after moving to the internal private cloud architecture and software using open source Linux [3; 4; 5].

Cloud technology allow to achieve and maximize the efficiency of distributed shared resources. This approach helps maximize the computing power while reducing the total cost of resources by using less power, cooling, rack space in disk drives, etc. to maintain the system. With the use of cloud technology, multiple users can access one server to retrieve and update their data without having to purchase licenses for various applications. The presence of networks with high-bandwidth, low-cost computers and storage devices, and the widespread introduction of hardware virtualization, service-oriented architecture led to the growth of cloud computing. Companies can scale to increase computational power and then scale back when demand requires reduction to achieve significant savings in operating costs and capital investments.

The aspiration to reduce total cost of ownership information products and the growing maturity of the open source products resulted in promotion of object-relational database management systems, which today occupy an important place in data centers. Leading analysts predict that by 2018 70 % of new internal development of software applications will be open source, and 50 % of instances of the existing commercial database management systems will be converted to an open software code or in the process of transformation [6:7].

The purpose and objectives of the study. The aim of the research is to develop methods for use of cloud technology in the implementation of database management systems as an integral banking information process design, implementation and support of databases and data warehouses banking information, and developing approaches to implementing complex software open source solutions.

Achieving this goal led to the formulation of such problems:

– formulation and implementation of tasks to ensure the minimum cost for all types of information through the use of software with open source and cloud storage;

– study issues of information security when using cloud infrastructure and open source;

– development of technology to increase the efficiency of hardware resources of servers;

– analysis of advantages to extend the functionality of existing information systems through flexible tools for scaling of resources and business continuity capability of the cloud;

– the capability of obtaining new quality of knowledge through the computing power to analyze banking information based on cloud technologies;

Object is a database management system of banking information.

The subject of the study is cloud software and implementation of open source database management systems for bank information.

Research methods. Methodological basis of research is modern theoretical methods and systematic approach to design, construction, integration and support of databases and data warehouses, as well as methods of expert assessments, economic-mathematical and heuristic methods.

The empirical research base is national and international experience in the development of information banking systems. The information base are laws and regulations, monographs and periodicals of Ukrainian and foreign publications, data of domestic and foreign banks. The statistical base is open banking information of "Raiffeisen Bank Aval" JSC.

Scientific novelty of research. In the course of the thesis it is planned to receive new, scientifically based results to ensure the lowest cost using the open source software and cloud storage, resolution of problems with information security, efficient use of hardware resources, scaling resources and resiliency, and obtaining new quality of knowledge through the computing power to analyze banking information based on cloud technologies.

The practical significance of the results will maximize the efficiency of server hardware resources, to provide the minimum cost of using all kinds of information, obtaining new quality of knowledge through the computing power to analyze banking information based on cloud technologies.

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ВИКОРИСТАННЯ ПАКЕТІВ STATGRAPHICS ТА SPSS В ПРОЦЕСІ ПРИЙНЯТТЯ ЕФЕКТИВНИХ УПРАВЛІНСЬКИХ РІШЕНЬ

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На даному етапі розвитку суспільства комп'ютерні технології виступають як один із інструментів пізнання. Комп'ютерну грамотність [1] на сьогоднішній день слід розглядати як критерій загальної професійної підготовки студента, який повинен володіти основними поняттями та термінами інформатики, розуміти будову і принципи роботи комп'ютера, використовувати операційні системи, вдосконалювати навички практичного використання програмного забезпечення

Завданням нашого дослідження є висвітлення основних переваг використання комп'ютерних технологій у навчальному процесі майбутніх менеджерів, адже, саме комп'ютерні технології навчання, завчасно ознайомлюють студентів з необхідними комп'ютерними програмами та середовищами без яких неможлива їх майбутня професійна діяльність, зокрема прийняття виважених та ефективних управлінських рішень.

Для успішного функціонування в умовах жорсткої конкуренції фірми, банки, страхові компанії відчувають потребу в аналізі наявної інформації та отриманні з неї обґрунтованих результатів та прогнозування економічних процесів. У розвинутих країнах на сучасному ринку статистичних програм провідні місця за якістю посідають такі зарубіжні пакети, як TSPE. VIEWS, SPSS, MINITAB, STATGRAPHICS, SYSTAT, SAS, BMDP, RATS та ін.

Графічні можливості пакета STATGRAPHICS суттєво відрізняються від можливостей інших статистичних пакетів. STATGRAPHICS дозволяє проводити налаштування всіх можливих елементів графіків, тобто, області визначення, розміри рамки, заголовків, типи і кольори ліній, точок на графіку, оформлення