Business Administration and Data Warehouse

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Abstract: This paper describes the aim of operating the database administration on organizations, and the strategies of the database administration's position (Database Administrator (DBA). In addition, it states the differences of DBA certifications. Moreover, it presents the idea of applying the data warehousing and its benefits.

Database Administration

Database administration is a department that usually is classified under the IT department, and it is responsible for managing and designing one or more databases. Usually, in the larger organizations, the database administrator (DBA) has all the responsibility to select, test, and evaluate the database in accurate times. For example, the database administrator should take a part in testing the connection from all the organization's computers to the database system to ensure that all users can insert and extract information from the database. On the other hand, in the smaller organizations, they are dealing with this issue through one of the three different methods:

1- Some organizations contract with a person who has good experiences in database administration field, and work for a part time.

2- Some organizations prefer to deal with expert companies that provide this services to take this task for long-term lease.

3- Some organizations try to spend less money and give this mission to other department (in the same organization) to work on two tasks, such as make the IT department group deal with the database of the company instead of having database administrator position (Janssen, n.d.).

Database Administrator (DBA)

Basically, there are many corporations that offer database programs. In addition, these databases are not equally the same functions, such as the size of the database, the methods and advantages, and the way of creating tables. Therefore, the database administrator should be able to learn and implement the organization's database. In fact, most of the known organizations provide formal training lessons to the new DBAs before they start their positions. The main goal of this position is to control and monitor the company's database and make sure that he/she is able to track the errors that might happen and fix them. In this case, controlling and monitoring the database considers many aspects:

1- Ensure that the database is one hundred percent secure. Because the company's users need to access the database to reach the information that they want, so the DBA should keep in should allow just the users who have permeations to join the database. Indeed, the information that the companies have in their systems should be secret and covered by high security system.

2- Assure that the database is editing. One of the essential aspects of DBAs is to test the database and keep it on a high level of performing. For instance, upgrade the level of the memory capacity when the size of data is reaching the first warning of memory size.

3- Applying the safety environment by making frequent backup and recovery to the system. For example, implementing an automatically method to do weekly backup into the system, just in case of crashing from the database itself or hacking.

4- Generating reports about the database, which include all the advantages and disadvantages to dispose of the tiny problems that could be big issues in one day.

DBA Certifications

There are many database organizations that provide different types of certifications in database administration, such as Oracle, Microsoft, and IBM. Oracle released its own database system in 1980, with using the language C and C++. Oracle has three different types of certifications in database, the first type is called "associate" (OCA), the second type "administrator" (OCP), and the third type is "master" (OCM). Each one of these certifications has different kind of exams. Moreover, it requires two Oracle courses before you get these exams. IBM offered DB2 version 8 in 1983. C and C++ were the languages that they used. Basically, it has variety of levels and each level has a single exam. In addition, IBM does not require any pre-courses for their certifications before you get all the exams. Microsoft launched Microsoft SQL Server in 1989, and they used just C++ on building the system. In fact, you have to pass four exams to obtain the Microsoft Certified Database Administrator (MCDBA). Furthermore, Microsoft does not have pre-course requirements, it just has one level of certification (Fosdick, n.d.).

DBA Offers

DBA is one of the most intensive positions that requires many experiences and certifications. On the other hand, it provides high level of career hierarchy with high salary. Indeed, this position is needed for most of the companies, according to Certmag, "Database administration is one of the fastest developing careers" (Polakowski, 2009). Nowadays, a very large amount of cooperators are offering high amount of salary for database administrator people, at the same time, they are requesting many years of experience and implantations.

In 2012, U.S.NEWS wrote about the best technology jobs, the US Labor Department reported about the salaries of database administrators in the US, the highest salary was around $118,000 a year, and the lowest salary was around $43,000 a year. Therefore, we can say that the average salary was presented in 2012 was approximately $79,000 (U.S.NEWS.com, 2012). Figure 1.
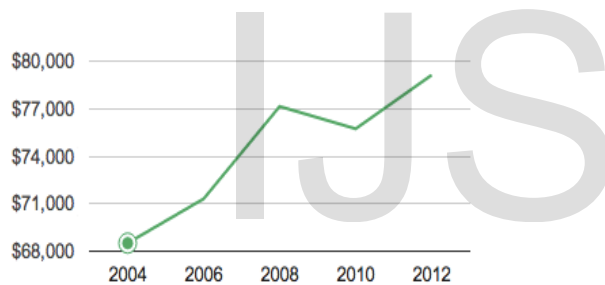

Figure 1.
Database Administrator Mean Salaries (2004 - 2012)
(U.S.NEWS.com, 2012)

Data Warehousing

Introduction

Data warehouse is data that is designed for the organizations to help them collecting the old and current information from different sources by using specific structure to provide solid and organized data. Indeed, these sources can be very wide or narrow. The organization can get just interior data from its departments, such as budget, human resources, operations, etc. (Figure 2.), or it could be more and more widely, such as getting more information from social networking programs, Facebook and Twitter (Gallo, n.d.)

Figure 2. (castek.in)

Advantages of Using Data Warehousing

First of all, data warehousing gives the organizations the ability to search about data from only one place. Therefore, it supports quick decisions with high level of quality and performance. The advantages that can be achieved for applying the data warehousing in organizations are a lot. However, I will describe the most unique advantages.

1- **Saving time**: Making one database that contains many useful sources helps the users to search on it instead of accessing many databases and try to match all of this information together

2- **Achieving benefits from the old information**: Many corporations around the world receive and insert daily information into their systems, this information can be stored in one big database and they can transfer these information to usable knowledge that would show multiple solutions to them. For instance, a coffee producer company can analyze the impact of customers after they launch a new kind of coffee; these data can assist them to expect more about what would happen when they release another product to the market.

3- **Accurate and quality outputs**: Since all the internal departments are working to distribute the information into one area (Data warehouse), they should follow a specific strategy of sending this

data. In fact, standardizing the inputs is one of the data warehousing aspects to deal with all the information types. Thus, the input would be very accurate and the managers can use it confidently (Spotfire Blogging Team, 2011).

Data Warehouse Information

Data warehousing contains a variety of data packages. Not all the data have the same category, however, each group of data is considered under specific type of categories. Indeed, data warehousing takes an important part of holding the historical inputs that have been used in the system for many years. In the past, the organizations thought that these basic data were not essential for the long term. Nevertheless, after implementing several methods and algorithms to these data, the results allow users to have useful ideas about the benefits of mixing these data together.

Decision Making in Data Warehouse

- Creating high accurate information that assists the users to make right decisions
- Monitor the information and control it
- Historical data gives clear overview to the future planes
- Automatically update the information status depends on the total of inputs

References

1. Database administrator. (2004). *Dictionary.com*. Retrieved April 30, 2014, from

    http://dictionary.reference.com/browse/database+administrator

2. (Janssen, n.d.). What is Database Administration? - Definition from . Techopedia.*Techopedias*. Retrieved April 30, 2014, from .
    http://www.techopedia.com/definition/24080/database-administration

3. (Fosdick, H., n.d.). DBA Certifications Compared: Oracle vs. DB2 vs. SQL Server - . DBA Article. *DBA Certifications Compared: Oracle vs. DB2 vs. SQL Server - . DBA Article*. Retrieved May 1, 2014, from .
    http://dba.fyicenter.com/article/DBA_Certifications_Compared.html

4. (Polakowski, M., 2009). Database Administrators: It's All in a Day's Work - .Certification Magazine. *Certification Magazine*. Retrieved May 1, 2014, from . http://certmag.com/database-administrators-itaes-all-in-a-dayaes-work

5. Database Administrator: Salary. (2012). *Database Administrator Salary Information*. Retrieved May 1, 2014, from http://money.usnews.com/careers/best-.jobs/database-administrator/salary

6. (Gallo, n.d.). Applying agile methods to data warehouse projects. *Applying agile . methods to data warehouse projects*. Retrieved May 2, 2014, from .
    http://searchbusinessanalytics.techtarget.com/feature/Applying-agile-methods-. to-data-warehouse-projects

7. (Spotfire Blogging Team, 2011). Top Five Benefits of a Data Warehouse | Trends and . Outliers.*Trends and Outliers RSS*. Retrieved May 2, 2014, from .
    http://spotfire.tibco.com/blog/?p=7597

8. Designing Your Database for OLAP, 4 of 6. (n.d.). *Designing Your Database for . OLAP, 4 of 6*. Retrieved May 2, 2014, from .
    http://docs.oracle.com/cd/B10501_01/olap.920/a95295/designd4.htm