The Rise of the Renaissance Database Administrator
Cloud Opens Up New Career Vistas

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Introduction

What do these market-defining trends have in common?

- Analytics for all
- Analytics as competitive differentiator
- Internet of Things
- Artificial intelligence/Machine learning/Cognitive computing
- Real-time analytics/event management

They all rely on data – timely, accurate data delivered within an insightful context – to deliver value. The question is: who in the enterprise is most qualified and prepared to help deliver on the vision and values of the data-driven enterprise?

It’s going to take a special type of professional to deliver that value to enterprises. Organizations are seeking professionals to step forward and take the lead, provide guidance and lend expertise to move into the brave new world of digital. The move to digital and all that it entails – sophisticated data analytics, online customer engagement and digital process efficiency – requires, above all, the skills and knowledge associated with handling data and turning it into insights. The move to digital is also a search for leadership, and senior executives are only too aware that they alone do not have the skills and know-how to make it happen.

Database administrators are in the right place, at the right time, for this emerging opportunity. This is the time for DBAs to step forward, take a leadership role, and move the enterprise to take action. Who else can we look to as stewards of customer information, transaction data and intellectual property? DBAs have the knowledge and education to secure sensitive data on behalf of organizations and citizens of the known universe. Now is the time for DBAs to be proactive and lead their companies to successfully move into the digital realm.
The U.S. Bureau of Labor Statistics predicts that demand for DBAs as an occupation will keep rising, with 11% more jobs available within the next seven years – faster than most occupational categories.

Cloud as Digital Growth Catalyst

Cloud computing is the gateway to the digital economy, and the growth of cloud is also boosting the profiles of DBAs in a dramatic fashion, creating increased demand as well as elevating the nature of their jobs.

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As BLS describes in its most recent career outlook analysis: “Growth in this occupation will be driven by the increased data needs of companies in all sectors of the economy. Database administrators will be needed to organize and present data in a way that makes it easy for analysts and other stakeholders to understand.” BLS also cites “the increasing popularity of Database as a Service, which allows database administration to be done by a third party over the Internet, could increase the employment of DBAs at cloud computing firms in the data processing, hosting, and related services industry. The increasing adoption of cloud services by small and medium-sized businesses that do not have their own dedicated information technology (IT) departments could increase the employment of DBAs in establishments in this industry.”

A look at the nature of cloud traffic – and the increasing importance of data in the cloud – were revealed in the latest data center traffic estimates from Cisco. The latest report estimates, for example, that 3.9 zettabytes of cloud traffic moved through the world’s data centers in the year 2015. By the year 2020, this traffic is projected to also quadruple, to more than 14 zettabytes. More than 20% of this traffic is and will continue to be data analytics and Internet of Things workloads.

Clouds and DBA Tasks

For years, the roles and responsibilities of DBAs were well defined and contained within the confines of the data center or IT department. DBAs were the ultimate caretakers for their corporate databases, making sure everything was running smoothly, managing the loading and extraction of data, setting access rights and data security, and ensuring that everything was backed up.

As cloud computing is accelerating the growth of data and the ability to move organizations into the digital race, it is also shifting DBAs’ roles and responsibilities. Cloud services – both from databases connected to the cloud, as well as databases run within clouds -- make the role of DBA more important than ever. Cloud services may help automate the management, installation, troubleshooting, performance, patching, backing up and security of data, but DBAs are needed to ensure that data environments continue to run efficiently and line up with business requirements.

A survey of members of the Independent Oracle Users Group, conducted by Unisphere research, a division of Information Today, documents the relentless growth of data – as well as its increasing importance to the business – demonstrates the increasing value of DBAs as they engage new avenues of the business. A majority, 62%, report their company’s data volume has grown more than 10% annually, and 74% state their companies’ requirements for secure, well-governed data environments that meet compliance mandates is growing as well. Many organizations are turning to data to help make better business decisions, engage with customers, and increase speed to market.
Seventy-three percent of managers and professionals expect to be using DBaaS within their enterprises by that time, versus 27% at the present time.

Cloud frees up valuable DBA time and resources to provide this value to the business. Cloud-born services can help DBAs in a number of ways, handling much of the lower-level or infrastructure maintenance concerns, including the provisioning of disk space, increasing high availability, providing failover, integrating data, and enhancing security.

An additional IOUG-Unisphere survey finds growing interest in Database as a Service (DBaaS) as a viable approach to serving enterprises’ needs for greater agility and faster time to market with cloud computing. DBaaS is taking off, with adoption expected to triple between 2016 and 2018. There will be a significant amount of enterprise data shifting to the cloud over that same time period as well, as enterprises rethink data management in the cloud. Seventy-three percent of managers and professionals expect to be using DBaaS within their enterprises by that time, versus 27% at the present time.

Enter the ‘Renaissance DBA’

Historically, DBAs have focused on maintenance tasks within their enterprises. The typical duties of a DBA have typically included the following types of tasks:

- Performing backup and recovery duties
- Monitoring database server health
- Ensuring disaster recovery and high availability
- Database performance tuning
- Establishing standards and schedules for database backups
- Working with developers and designers and assisting them in their tasks
- Establishing and enforcing standards in the database design and use
- Overseeing the transfer, replication, and loading of data
- Scheduling events or jobs
- Ensuring database accessibility to authorized users
- Changing database parameters and setup to ensure optimal database performance
- Manage space allocated for the database
- Assure compliance

For the time being, as their organizations shift to cloud, DBAs may still oversee many of these essential tasks, depending on the degree of automation achieved within their organizations. For on-premises systems, such as an ERP application, the DBA has usually had to get involved with all the nuts and bolts of implementing and maintaining the system, from vetting data sources to ensuring integrity. In cloud-based environments, much of the lower-level task work is conducted by the cloud service provider. The cloud provider likely has already set up the database, installed the application, created the tables, and will provide the upgrades. The DBA only has to focus on what’s happening on the business end of the engagement – customizing endpoints and output, usually using the provider’s tools.
This emerging “Renaissance DBA” is part technologist who understands the workings of databases, and part trusted advisor who helps business leaders leverage data insights to move their organizations forward.

At the same time, DBAs are answering to a new calling, serving a much greater role within the business. Thanks to cloud, many lower-level maintenance tasks will either be diminished or go away. Low-level tasks will be done at the click of the button, offered through cloud providers. At the same time, DBAs are assuming greater roles as analysts or consultants to their businesses – providing both strategic and operational guidance to help transform their organizations into consumers of intelligent insights coming from their data resources. This emerging “Renaissance DBA” is part technologist who understands the workings of databases, and part trusted advisor who helps business leaders leverage data insights to move their organizations forward.

The following activities are core to the roles of Renaissance DBAs:

- Communicating/ “telling a story” with data
- Supporting data analysis/making data-driven business decisions
- Facilitating forecasting and prediction
- Delivering presentations to senior management
- Overseeing or advising on systems design and analysis
- Developing analytic models
- Enabling data visualizations
- Identifying and securing Internet of Things data sources
- Identifying and deploying cloud resources

5 Key Roles of the Renaissance DBA

The Renaissance DBA wears many hats, the most visible and prominent being to help lead the emerging digital enterprise, fueled by cloud. Here are the new roles and responsibilities DBAs are seeing in today’s organizations:

Architect

While many typical DBA tasks will be automated, there will still be a need to deliver end-to-end service-level assurance across and beyond enterprises using cloud services. This means less time worrying about infrastructure, and more time on architecture, applications and the data itself. This data architect role will be part of the DBA task list. This includes the tasks typically assumed by storage, systems and network administrators. The DBA, as data architect, will be responsible for provisioning storage, assuring performance and measuring and monitoring systems in the cloud.

Leader

The typical DBA isn’t relegated to a single department, but often works across the enterprise with the entire range of business users. This will accelerate as the digital enterprise gains ground. Businesses depend on data to succeed, and there is a need knowledgeable people to step up. Already, DBAs are trusted for many critical tasks and decisions that shape how data is moved and shared between groups within their enterprises.

Teacher

Providing guidance to the organization. Data management can be a confusing thing to business leaders, who may even fear forays into big data analytics. DBAs will see new roles as teaching the business how it can make the most of data.
Potentially, DBAs can play roles as disruptors, demonstrating how data can serve to launch new approaches to business.

Innovator

There are many ways to leverage data and turn it into value for the business, and enterprises are only beginning to discover the possibilities. Renaissance DBAs will be spending less time working with data or IT staff, and more time working with business leaders and customers. DBAs understand how to work with data, and can work to help business professionals and leaders devise new approaches to products and services. Potentially, DBAs can play roles as disruptors, demonstrating how data can serve to launch new approaches to business.

Technologist

Keeping up with new technology developments in a fast-changing scene. The cloud is changing how data is scaled and stored. Also, new types of data environments have emerged on the scene, including the “NoSQL” environments that are designed to operate within cloud environments.

Conclusion

As enterprises seek competitive advantage by leveraging information from an increasing variety of connected systems, devices, and data sources, the job of managing the integration across myriad networks, data systems, and applications to deliver reliable information is becoming a greater challenge. Businesses want to be able to track and predict events and identify trends as they are happening or even before they occur and to be connected to an Internet of Things from which data can feed into analytics systems.

Thanks to the rise of cloud-based services, DBAs are able to elevate their roles within organizations. As a result of many of these traditional database administration tasks being assumed by cloud providers, DBAs are seeing their roles elevated to data architecture and consultative roles within their businesses.

By getting involved in projects that increase value to their businesses and enhance their own skills and careers, DBAs will become part of a Renaissance DBA movement and make innovation a greater part of their time and focus.

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