Cloud Skills and Organizational Influence: How Cloud Skills Are Accelerating the Careers of IT Professionals

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EXECUTIVE SUMMARY

Cloud is becoming an essential ingredient to a successful IT infrastructure. Recent research by IDC has identified how the growth of cloud as a computing platform has magnified the importance of cloud skills to the success of the enterprise. Moreover, it is becoming clear that IT professionals with cloud skills are strongly influencing both the type of cloud infrastructure and the ultimate pace of adoption of cloud. This puts IT professionals with cloud skills in the driver's seat of their own career. In fact, IT professionals with certifications related to cloud development and operations have dramatically more influence over their organizations' adoption and expansion of cloud services than otherwise similar IT professionals have over the adoption of other types of technical solutions. Cloud skills accelerate the success and career path of IT professionals.

The impactful cloud roles are diverse: Multicloud or hybrid cloud management, workload-centric management, and DevOps illustrate the changing job roles that are gaining influence in the IT organization.

IT professionals can use this information to help plot their self-development and certification path to maximize their career potential.

SITUATION OVERVIEW

According to IDC's *CloudView 2017,* currently only 16% of worldwide organizations have in place the skills and processes needed to efficiently manage the evolving cloud environment. At the same time, well over two-thirds of all IT infrastructure and software will be consumed as cloud services within the next three years. Already, over 70% of CIOs identified themselves as having a "cloud-first IT strategy." Since the importance of cloud is growing, and talent cannot be easily hired, enterprises and IT professionals must focus on developing skills that will be important in the near future.

Recent research by IDC has identified how the growth of cloud as a computing platform has magnified the importance of cloud skills to the success of the enterprise. CIOs and other technology leaders have found critical skills to be in short supply, particularly when their business is not close to major cities. The availability and the skill level of talent have a direct impact on functions as diverse as IT security analysts, cloud brokers, and cloud system engineers. While IT employment worldwide will grow about 4% annually from 2016 to 2021, cloud-related positions will grow at 13% annually. By 2021, 38% of IT positions will be cloud related.

Over 85% of enterprises will commit to multicloud or hybrid cloud architectures encompassing a mix of public cloud services, private clouds, community clouds, and hosted clouds. Some of these organizations may focus on SaaS solutions for public cloud and rely on private or even noncloud on-premises infrastructure for other workloads. Others will embrace a cloud-first strategy that aggressively shifts a wide range of workloads to the most appropriate mix of public IaaS, PaaS, and SaaS solutions available while continuing to support existing legacy systems as needed to enable mission-critical business requirements. While the precise configurations within enterprises may vary, it is becoming clear that IT professionals with cloud skills are strongly influencing both the type of cloud infrastructure and the ultimate pace of adoption of cloud.

This puts IT professionals in the driver's seat of their own career. IT professionals can choose how involved to be in the cloud migration of their enterprise.

Influence of IT Professionals

We recently completed research of more than 500 IT professionals to understand the factors that impact "influence" within the IT organization. We examined seven tasks related to the selection or expanded use of cloud to uncover if there were characteristics that made IT professionals "more influential" or "more involved" in their organizations' use of cloud. The seven tasks related to the selection or expanded use of cloud are:

- Determine business need for specific cloud solutions.
- Determine technical requirements for the solution.
- Identify/propose/nominate options through research and inquiries with various providers and so forth.
- Evaluate and/or test options with both structured and unstructured evaluation protocols.
- Recommend/select between options by finding an optimum balance between business requirements and solution capabilities.
- Sell decision internally (outside of the IT organization) by advocating and explaining the decision to develop organizational buy-in and common purpose.
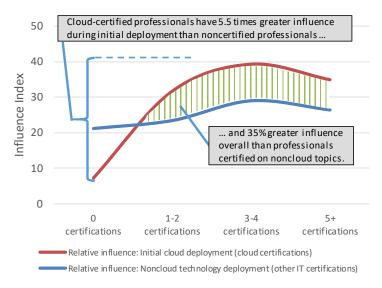- Authorize or approve selection/purchase decision.

We looked at these tasks for the initial selection of a cloud service provider and for expanding the use of cloud to include more workloads. On the basis of our findings, we could estimate an "influence index" to represent the average individual influence and the relative influence of individuals with different characteristics.

We found that IT professionals with certifications related to cloud development and operations have dramatically more influence over their organizations' adoption and expansion of cloud services than IT professionals without relevant certifications (see Figure 1).

- IT professionals with more than three relevant certifications have 5.5 times more influence during initial deployment of cloud services than IT professionals without cloud-related certifications.
- IT professionals with even one cloud certification are 35% more influential during cloud deployments than their counterparts are during deployments of other technologies.

FIGURE 1

Impact of Cloud Certification on IT Professional Influence for Deployments

Source: IDC, 2017

When we examined the influence of IT professionals during projects where the enterprise was expanding its use of cloud, as opposed to an initial deployment, we found a similar impact of certification. IT professionals with more than three relevant cloud certifications have 3.1 times more influence during expanded deployment of cloud services than IT professionals without cloud-related certifications.

Interestingly, this increase in influence appears to be related to not just the knowledge and the competence of the IT professional but also the validation and the recognition that come from the certification. We compared IT professionals who were highly proficient in an area with IT professionals who were proficient *and* certified. We found that IT professionals with more areas of high proficiency had lower influence in cloud-related technology deployments. The validation of the proficiency or the training to prepare the IT professionals for the cloud-related certification provided something in addition to the knowledge, skills, or behaviors of being highly proficient.

Ultimately, because of their increased role in the direction their organization is taking with relation to cloud and cloud service, professionals with more certifications are more optimistic about their careers in IT. Even a single certification makes cloud-related IT professionals more valued by their organization and have a more positive outlook on their career. And overall, cloud-certified professionals believe that the training related to certifications has had a positive impact on their career so far.

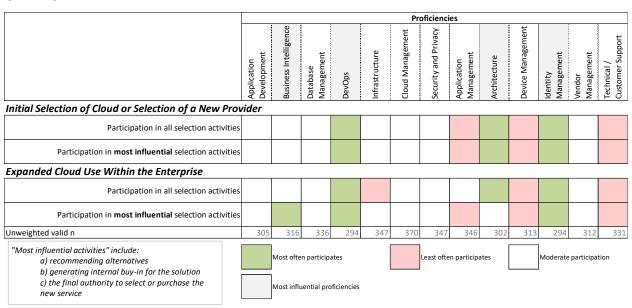## Most Influential Skills for Cloud Professionals

Cloud impacts many roles, including user support and technical architecture. Some roles (e.g., architecture) require significant experience, and other roles (e.g., development and administration) are rapidly changing. While all proficiencies or skills are important, some proficiencies have a greater influence on the evaluation and direction of cloud adoption. There are specific proficiencies or skills that are more influential and are more consistently leveraged during cloud selection projects. We found that individuals with DevOps skills and identity management skills most consistently participated in cloud selection projects – either the initial selection of cloud providers or projects to expand the use of cloud within the enterprise. Individuals with these skills, DevOps and identity management, were most influential in the selection activities that involved recommending alternatives, generating internal buy-in for the solution, or the final authority to select or purchase the new service.

IT professionals with architecture skills also commonly participated and were influential in these same cloud selection activities, during the initial selection of cloud or the selection of a new provider.

IT professionals with business intelligence proficiencies participated most often in the activities that involved an enterprise expanding the use of cloud or other workloads (see Figure 2).

FIGURE 2

Most Influential Proficiencies (Skills) When Participating in Cloud Selection Activities

	Proficiencies												
	Application Development	Business Intelligence	Database Management	DevOps	Infrastructure	Cloud Management	Security and Privacy	Application Management	Architecture	Device Management	Identity Management	Vendor Management	Technical / Customer Support
Initial Selection of Cloud or Selection of a New Provider													
Participation in all selection activities				green				pink	green	pink	green		pink
Participation in **most influential** selection activities				green				pink	green	pink	green		pink
Expanded Cloud Use Within the Enterprise													
Participation in all selection activities				green	pink				green	pink	green		pink
Participation in **most influential** selection activities		green		green				pink		pink	green		pink
Unweighted valid n	305	316	336	294	347	370	347	346	302	313	294	312	331

"Most influential activities" include:
a) recommending alternatives
b) generating internal buy-in for the solution
c) the final authority to select or purchase the new service

■ (green) Most often participates   ■ (pink) Least often participates   □ Moderate participation
■ (gray) Most influential proficiencies

Source: IDC, 2017

Therefore, while all proficiencies or skills are important in IT, some proficiencies have a greater influence on the direction of cloud adoption, and such proficiencies can more often help organizations take advantage of cloud technologies and techniques.

Significant Trends Impacting Cloud Professionals

And while all roles increase in influence when the IT professional is certified, several trends related to cloud create opportunities for cloud professionals to expand their influence and professional opportunities. They include:

- Hybrid cloud management
- Workload-centric management
- DevOps

Hybrid Cloud Management

Virtually all enterprise IT organizations will try to deliver consistent end-user experience and remain in compliance with regulatory and corporate requirements. To do this, most enterprise IT teams will use up-to-date insight into the state of critical cloud-related technologies. Multicloud or hybrid cloud architectures will change and reprioritize some of the skills required by IT professionals. The IT organization will need to design and orchestrate a full stack of services to support a rapid time to value for new applications and services. IT will need to provision infrastructure and multitiered platform and application services across the enterprise service ecosystem. The skilled organization will be able to plan, build, and operate cloud services to reduce management complexity and lower operating costs, which will ultimately reduce risk, increase compliance, and deliver business value.

Traditional IT roles will evolve in response to this changing architecture, including system and network administrators, architects, security analysts, and even database administrators.

Workload-Centric Management

In the past year or so, cloud service providers are delivering the capability for seamless workload portability and automated migration. Open APIs and container technologies allow enterprises to quickly shift new or modernized workloads across multiple cloud options with limited downtime or service-level impacts. At the same time, more enterprises will embrace hybrid strategies and become more aggressive about deploying a wide range of development and production workloads onto cloud platforms.

As more enterprise workloads are deployed into the cloud, IT organizations must help their businesses make better choices about which workload goes where. Early experimentation with cloud resources has created expensive and sometimes competing cloud silos that can be difficult to bridge. With most enterprises committed to multicloud strategies, it becomes mission critical to effectively evaluate the needs of individual workloads and consider the available cloud options in terms of cost, performance, security, and contractual agreements.

In a workload-centric organization, staff members with proficiencies in storage, networking, or security align with the workloads they serve, which results in a multidisciplinary team supporting each workload. IT professionals in a workload-centric organization will need to understand application performance analytics and how to respond to changes in application performance. New orchestration and management tools will be deployed, changing the tools used by engineers and architects.

DevOps

Fundamentally, DevOps describes an organization that has embraced a platform-enabled, collaborative, and business-centric approach to link decision makers, application and API coders, and IT operations and infrastructure to accelerate digital business transformation.

IDC expects that by 2018, enterprises that embrace DevOps processes and enabling technologies will increase the number of annual application and API code releases by 50% – moving from quarterly or semiannual releases to monthly or even weekly deployments.

However, as the scale of DevOps usage expands, most organizations will recognize that there continues to be a vital need for IT operations specialists who can architect and implement self-service, hybrid cloud management strategies that facilitate development agility while protecting the information assets and business goals of the company.

DevOps management will change and reprioritize some of the skills required in the IT organization, and a wide range of organizational structures will support DevOps. Some firms have adopted a single "DevOps" organization, responsible for both development and operations, like the workload-centric structure. Other organizations have improved the collaboration and coordination between the development and operations teams. There are other variations. But in all cases, skill changes will be required in the IT organization to facilitate the objectives of this trend. Clearly, the cloud architect will need to understand both the development process and the operations process to best design an architecture that facilitates coordinated activities. Similarly, both the cloud administrator and the cloud database administrator will need to enhance their skills to support increased participation in the development process, including identifying stakeholder requirements, development skills, and integration skills.

CONCLUSION

IT Professionals Who Evolve Their Skills Will Enhance Their Careers

Cloud continues to be a highly disruptive force, reshaping datacenter and application architectures and transforming the way IT resources and applications are created, bought, and managed. IT professionals should recognize the opportunities created by cloud in its many shapes and forms. Over the next 24 months, staffing for cloud services will become a strategic driver for IT. Moreover, new skills and capabilities will be essential to effective IT development, deployment, and governance of cloud resources.

While all roles increase in influence with cloud-related certification, IT professionals who recognize the importance of cloud to their enterprise and position themselves at the intersection of the new technology trends and their business requirements have the greatest opportunity. IT professionals who have proficiencies in DevOps, identity management and architecture, and cloud certifications will have more influence in activities relevant during cloud deployment and expansion projects. With these skills and certifications, IT professionals can better help their organization take advantage of cloud technologies and techniques and can also accelerate their careers in IT.

About IDC

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