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# IT Roles Facing Extinction

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## Introduction

For years IT has understood itself as strictly a support service that responds to, instead of enacts, innovative change. In the future, IT leaders will face a host of multi-dimensional challenges as global business increases in technological complexity. Some of the challenges include harnessing mobilization and employees' use of social media for business, developing both employee- and customer-facing business applications, streamlined analysis of big data, increased adoption of virtualized servers and storage, and streamlining cloud support, to name a few.

A number of analysts believe that the nut-and-bolts programming and easy-to-document support jobs will go to third-party providers outside the U.S. In its wake will be a need for IT workers with versatile skill sets not normally found within IT. Abilities such as project management (for intricate, multi-tiered IT projects), public speaking (for interfacing both with corporate business and clients), and mathematical expertise (for engineering and development tasks) are just some of the IT skills that will be in demand in the near future.

It will not only be a diversity of necessary skills, but where those skills can be used that will be crucial. For example, application development skills will be instrumental for those working in the service provider sector, software development area, or on IT teams within large or small organizations.

In the future, IT will be outward focused, business-centric, and business-enabling instead of simply a stop-gap, support service. IT will become a multi-pronged enabler for clients as well as an active agent for marshalling the power of technological innovation toward increasing a company's ROI to gain a competitive advantage. In this regard, business-facing expertise and skills will be on equal footing with tech-based knowledge.

Today, there's a huge amount of focus on getting more efficiency using virtualization, the cloud, Web 2.0, networking, and mobility. Better efficiency and innovation will reduce the number of technicians needed for certain tasks within the datacenter. Going forward, IT teams and organizations within mid-size and larger corporations will be smaller in size. This will all be due in equal measure to automation; trends such as virtualizing servers, storage, and desktops; access to cloud-based services; outsourcing beyond the U.S.; and the migration away from IT-based occupations.

It's safe to bet that the pure technology positions will steadily diversify as complexity within the datacenter increases. This will include roles such as business-enterprise architects, business technologists, systems analysts, network designers, systems auditing, and project managers, including more rounded skills that expand knowledge bases and challenge traditional IT comfort zones.

The following are some of the key areas where traditional IT administration skill requirements will be changing and where some skills will become obsolete.

## I. Programming

While coding and basic programming will be outsourced beyond the U.S., essentially for software that can run only on the PC, mobile programming is poised to take huge strides. This includes writing code specific to the operating systems for Android, Apple, and Windows Phone 7, among others. In the near future, the mobile market is set to dwarf the PC market in sales. This means traditional programming languages, such as Cobol, Delphi/Object Pascal, and Transact-SQL ColdFusion, are examples of older languages being phased out. Even tried-and-true Flash development is being eliminated. Taking their place, skills in languages such as the following will be increasingly in demand: MS.net, Python, Ruby, HTML5, RESTful Web Services, Javascript, and JQuery.

## II. Datacenter

In terms of basic networking, a number of traditional IT operations will be superseded by higher-level skills or eliminated altogether. Typical network administrator tasks such as wiring and coupling blade servers, updating and installing patches, or provisioning storage will be outmoded skills due to new advancements that are already taking place. These include cloud sourcing for additional CPU power and storage allocation. Server and desktop virtualization will reduce the need for multiple administrators because automation and centralized management will enable a single individual to handle the tasks. This has already begun taking place, but we will see it occurring on a much greater level as these processes take a firmer hold in every datacenter.

In the area of communications, the consolidation trend continues. Instead of traditional telephony, Unified Communications (UC) represents a paradigm shift similar to what's occurring in other technologies. UC combines presence, VoIP, IM, email, and conferencing into a single comprehensive service. Gone are the service technicians responsible for rewiring and maintenance. UC makes those skills unnecessary. In the future, one or two systems analysts will centrally handle communication implementation and flow from within the datacenter.

## III. Data Technology

The exponential increase in data in the future has often been commented on. With the rise in mobilization, and all its attending media features, we will not only be producing more data, but companies' demand for that data will increase as well. Business success will hinge on an organization's ability to make sense of their accrued data and using it to achieve key strategic goals. With that will be the need for analysts who can identify and predict trends ahead of the competition as well as defining what data is needed and where to get it. This is just one example of technical capabilities being combined with business savvy and know-how to produce actionable results. Gone are the SQL database administrative duties. The ability to blend the unstructured (big data) with the structured (business interests) represents a unique skill set that illustrates that convergence of abilities that will be in greater demand.

An IT professional who has the technology background to offer abstract skills (math, engineering) as well as an ability to interact effectively with the business and service sector (public speaking, interpersonal skills) combined with the intangible (imaging and visualization, imagination) represents key attributes for the successful data technologist. These technicians can build meaningful, structured results out of often incoherent piles of data.

## IV. Security

The 24/7 business cycle requires company infrastructures to always be up. Losing a day in transactions due to a security breach can be substantial in dollars, not just in the loss of credibility. Add to the mix the increase in mobile workers accessing company networks and the increase in the number of surface vectors has serious repercussions. Distributed Denial of Service (DDoS) attacks, malware run amok (Stuxnet, Flame), and cyber criminal concerns require the right security infrastructure architects to build alerting technologies, in-line defense tools, and systems designs that can repel such attacks. A number of companies will resort to third-party security providers as well as rely on cloud-based security services.

While security management skills will become increasingly important, these providers of cloud-based SaaS services will inherently provide efficient protection features, and mobile platforms will also offer better security. Within organizations, gone are the traditional back-up and recovery skill sets which will be relegated to third-party providers. According to David Foote, president and CEO of research firm Foote Partners LLC., "Securing information will change in 2020, when companies will cast an even wider net over data security-including the data center, Internet connectivity, and remote access."

Gone are the technicians who relied on security standardization, procedures, and auditing. Moving forward, security will be less about constructing layers of standardized controls within the perimeter. It will demand a careful, nuanced approach and smart solutions. New skills include those such as virtualization technologies, centralized managing capabilities via maturing dashboard tools, data mining, and the ability to implement management tools in a company's public or private cloud.

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## Share Your Comments

Which IT roles if any, do you think are facing extinction? Share your thoughts and see what others think on the [Global Knowledge blog](#).

## About the Author

Kerry Doyle writes for a diverse group of companies based in technology, business and higher education. As an educator and former editor at PC Computing, reporter for PCWeek Magazine and Associate Editor at ZDNet.com, he has written extensively on high-tech issues for over 15 years. He specializes in computing trends vital to SMBs and enterprises alike, from virtualization and cloud computing to disaster recovery and network storage.