

THE FUTURE OF IT SKILLS

TECHNICAL SUPPORT

February 2017

The nature of work is changing. New trends in technology are creating new possibilities for automation and artificial intelligence. While the impact to overall job numbers is unclear, one thing is certain: technical skills will be in high demand.

This series from CompTIA examines those skills that companies are searching for. Even when job titles look familiar, it is important to understand how roles are changing in an environment defined by cloud computing and mobile devices.

In *Building Digital Organizations*, companies told CompTIA which skills are currently needed as digital transformation reshapes the nature of business. The direct impact of technology on business outcomes gives modern IT a dual nature, with strategic efforts being added on to traditional tactical work.

Building the appropriate team structure requires a multi-faceted approach. As IT interacts more and more with business units, there is a need to mix technical skills with soft skills, such as communication and project management. On the technical side, there is another mix, between well-established disciplines and cutting edge domains.

As the first line of defense, technical support must embrace all of these blends. Soft skills are certainly needed as technicians work with customers both inside and outside the organization, and technical skills must cover a wide spectrum of work. In the absence of a single skill group that covers all the relevant areas, companies likely gravitated towards device support skills, which have long been a staple of technical support. PC support in particular had a year-over-year jump in the number of companies citing demand. However, the job role today is much more diverse and even de-emphasizes hardware in the overall responsibilities.

Technical Skills	% of Companies in Need
Security	40%
Database/Information management	38%
PC support	36%
Storage/Backup	33%
Networks	31%
Cloud architecture	29%
Telecommunications	27%
Web development	27%
Server/Datacenter management	27%
Mobile device support	24%
Application development	23%
Big Data tools/analytics	23%
Virtualization	21%

To the extent that hardware is still involved for level one technicians, responsibilities have definitely grown to include different devices. Where there was once heavy focus on PCs running Windows, many firms today offer both PCs and Macs as options and also utilize smartphones heavily. Direct hardware repair is on the decline as companies explore BYOD and utilize warranty support, but familiarity across multiple operating systems is needed as a basic step in ensuring productivity.

Beyond devices, though, the first line of defense is now interacting with a complex back end system comprised of many parts. CompTIA's *Functional IT Framework* describes four primary IT disciplines—Infrastructure, Development, Security, and Data—and a service desk analyst must be familiar with all these areas in order to route issues to the proper experts.

Infrastructure skills start at the device/OS level but certainly extend to back end components. Networking knowledge is a high priority as connectivity issues have immediate impacts on productivity. High-profile back end approaches such as virtualization or cloud computing drive front end skills for properly troubleshooting application problems. Storage options must be well understood for questions about information handling.

Even as cloud computing and mobility change the overall nature of infrastructure, the connection between the back end and the front end remains a vital link for supporting a tech-driven workforce. Service desk positions remain an excellent entry point for more advanced back end roles, and at the same time there is increasing opportunity for level one techs to move into the other three pillars.

Development is perhaps the least likely destination for these employees. The skills, problem-solving techniques, and work methodology for software engineers tend to be somewhat unique, especially as individual companies focus on specific languages for their applications. Still, the momentum behind DevOps is creating more overlap than ever between Infrastructure and Development, so a transition from tech support to software coding is not out of the question.

For many organizations, Security is an offshoot of Infrastructure; security posture is primarily determined by the implementation of technology such as firewalls and antivirus. As such, level one support often has knowledge of security tools that ensure end users are properly protecting corporate assets.

However, Security is growing to encompass processes (such as regulatory compliance or risk management) along with end user education. As companies develop new procedures,

service desk responsibilities will likely evolve to incorporate the relevant steps in secure operations.

The final IT pillar, Data, represents another stretch area for support. The support function has traditionally been interrupt-driven: a problem comes in and gets resolved. As businesses recognize the value of analytics and build out capabilities in that space, there is significant potential for support technicians to collect and analyze data. The patterns they find could highlight widespread issues or suggest efficiency improvements.

Along with the technical skills that help the first line of defense respond to diverse issues, there is a growing need for knowledge in operational procedures and project management. Technical skills allow service desk analysts to get the job done; process knowledge allows them to fit the service desk into the larger flow of the business.

Expertise in IT service management, using a framework like ITIL or COBIT, is usually a first step for support technicians. This knowledge is necessary to formalize processes for a growing number of requests and to ensure that those requests are properly cataloged. Beyond this operational step, project management skills come into play for more experienced technicians that are starting to analyze the collected information and attack any systemic problems.

Of all the changes happening across IT, the help desk role may be undergoing the most dramatic change. The required technical skills cover a broad range of topics, policies and procedures are needed to handle a large number of requests, and customer service is more important than ever. Whether the first line of support is managed in-house or outsourced, there is a growing need for well-rounded technicians to support digital strategy.

ABOUT COMPTIA

The Computing Technology Industry Association (CompTIA) is a non-profit trade association serving as the voice of the information technology industry.

With approximately 2,000 member companies, 3,000 academic and training partners, 100,000 registered users and more than two million IT certifications issued, CompTIA is dedicated to advancing industry growth through educational programs, market research, networking events, professional certifications and public policy advocacy.