Enabling IT Resilience and Agility with On-Demand Skills

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Situation Overview

Business leaders increasingly understand that technology doesn’t just enable the business — for many, it is the business. Digital technologies are embedded throughout enterprises in virtually every aspect of operations. They are also essential to the creation of unique and competitive customer products and services, as well as seamless and engaging experiences that span digital and physical realms. Those factors have significantly increased demands on CIOs and their IT organizations as ubiquitous computing, connectivity, and intelligence have become essential to doing business in the digital era. Yet, even as those digital capabilities have become critical strategic assets, they are subject to risks and challenges on many fronts. One of the most pressing challenges is access to the talent needed to deploy and manage critical network infrastructure.

The COVID-19 pandemic has garnered a lot of attention and focus, but in reality, IT organizations are facing challenges from many sides. The pace of change in business environments is accelerating, customer expectations for seamless omni-channel experiences are rising, workers are demanding flexible work models, and the “great resignation” has depleted the ranks of skilled workers.

As technology has become integral to business success, so too has CIOs’ ability to enable resilience and agility through the IT organization and processes. The push-pull between running reliable, secure IT and creating new, innovative digital solutions is not a new phenomenon for CIOs. Yet now there is an overlay of ever-increasing demands and challenges including:

- Dealing with escalating and evolving cybersecurity threats and the rapidly evolving tools and best practices for countering them
- Vetting and adopting new and emerging digital technologies that bring business benefits but also potential negative consequences
- Meeting growing demands and expectations from workers, business leaders, and customers for highly personalized and seamless experiences
- Managing and securing edge computing and the growing reach of enterprise networks
- Enabling business and operating model pivots and shifting priorities: new delivery and fulfillment approaches, contact-free commerce, work-from-home and hybrid work models, and new lines of business (LOBs)
- Leveraging LOB development resources and efforts while maintaining enterprise architectural coherence and integrity as well as network reliability and performance
- Finding scarce talent when and for how long it is needed
In short, digital technologies present a dilemma for CIOs, as they are enablers of desirable and engaging products, services, and experiences that customers want, but the computing and networking underpinnings of those experiences are growing increasingly complex with myriad interdependencies, attack surfaces, and potential points of failure.

In response to the challenges, CIOs must have ambitious agendas to meet increasing demands from their businesses. The shift to hybrid workplaces requires solutions that support working in homes, offices, and anywhere else that workers desire. Modern businesses need applications to support new business and operating models that can adapt to changing business conditions, markets, and customers. CIOs must also modernize and rationalize legacy systems while moving to multicloud architectures and constructing open yet secure digital platforms to work with ecosystem partners. Hybrid work environments, enterprise intelligence needs, and digital products and experiences require ubiquitous yet secure connectivity that extends far beyond the enterprise. In addition, the rapidly expanding scale and complexity of systems, networks, and applications require automation of IT operations, continuous optimization, core-to-client process visibility, and full-stack observability to ensure reliable end-to-end services and experiences that meet worker and customer needs.

These challenges and responses all share two things in common: they have significant implications for network performance, reliability, and security; and success is predicated on the on-demand availability of scarce and diverse talent, something that CIOs can’t take for granted. When needed talent isn’t available, IT computing and network environments are subject to higher levels of risk to performance, reliability, and security just as they have become most critical to business survival and success.

IT skill shortages will affect 90% of organizations by 2025, 

costing over $6.5 trillion globally through 2025.
Challenges of Filling Skills Gaps

Today, IT organizations need a flexible and scalable approach to sourcing talent that can be rapidly deployed, shifted, and removed as needs change. IT needs to be able to source talent at the precise time it’s needed, for as long as it’s needed, and then augment or replace human intelligence with automation. But sourcing talent has become more difficult in recent years due to several factors:

- The need for new skills emerges rapidly as artificial intelligence (AI), machine learning (ML), robotics, blockchain, and other technologies are adopted, and those technologies are also key to automating IT roles and tasks. IDC predicts that digital transformation–related IT skill shortages will affect 90% of organizations by 2025, costing over $6.5 trillion globally through 2025 due to delayed product releases, reduced customer satisfaction, and loss of business. Roles and IT employees that are focused on digital transformation are expected to be a majority of all IT roles by 2024 and almost 70% of all IT employment by 2025 (see Figure 1).

**FIGURE 1**

**DX and Non-DX Share of IT Employment, 2020–2025 (000)**

Skills shortages in high-demand DX areas will increase dramatically from 2021 to 2025. Applications FTE requirements are expected to grow 106%, data management/analytics will grow by 119%, and cybersecurity by 134%. This suggests that for these three role groups alone, employers, schools, or other sources will need to train more than 8.5 million more IT professionals from 2021 to 2025 and more than 2.5 times that many in other DX-related roles such as technical support and IT infrastructure (see Table 1).

**TABLE 1**

*Worldwide DX-Related IT Employment Forecast, 2020-2025 (FTE, 000)*

<table>
<thead>
<tr>
<th>Role Group</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>5,501</td>
<td>6,508</td>
<td>7,759</td>
<td>9,150</td>
<td>10,693</td>
<td>12,401</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>503</td>
<td>608</td>
<td>752</td>
<td>918</td>
<td>1,105</td>
<td>1,318</td>
</tr>
<tr>
<td>Data management/analytics</td>
<td>1,683</td>
<td>2,003</td>
<td>2,432</td>
<td>2,922</td>
<td>3,463</td>
<td>4,070</td>
</tr>
<tr>
<td>Other DX roles</td>
<td>10,909</td>
<td>12,274</td>
<td>14,006</td>
<td>15,806</td>
<td>17,579</td>
<td>19,362</td>
</tr>
<tr>
<td>Total</td>
<td>18,596</td>
<td>21,393</td>
<td>24,950</td>
<td>28,796</td>
<td>32,840</td>
<td>37,151</td>
</tr>
</tbody>
</table>

Source: IDC’s *IT Employment Impact Guide*, December 2021

Skills requirements are continually shifting, both predictably, based on phases of a project life cycle, and unpredictably, as happened when IT organizations had to support enterprise-scale work-from-home environments, virtually overnight. The demand for work-from-home environments will continue to grow, putting more pressure on IT organizations and their staffs. IDC estimates that by 2023, digital transformation and business volatility will drive 70% of G2000 organizations to deploy remote or hybrid-first work models, redefining work processes and engaging diverse talent pools.

The "great resignation" has depleted the workforce and removed key knowledge and expertise.

Much of the best, most needed talent resides outside of the enterprise and may not be available for hire.

A growing number of tasks are beyond the capabilities of humans and require machine intelligence and analytics to monitor highly distributed and complex networks and analyze vast amounts of operational and customer data. While this reduces some demand, it increases the need for talented AI/ML professionals to build and manage those automated activities, increasing the skills required for those roles and making filling those positions even more challenging.
Key Trends in Filling Skills Gaps

Complicating these dynamics is the fact that the success of IT professionals is measured differently today. IT professionals are increasingly measured by their contribution to business outcomes. IDC predicts that by 2024, DevOps maturity will shift further left with 50% of DevOps teams evaluated primarily on business metrics such as customer satisfaction, margins, cloud costs, and other business outcomes.

Therefore, IT leaders need to go beyond traditional hiring, outsourcing, and engaging gig workers to create a fluid and flexible strategy that fuses human and machine intelligence in the right fashion for each task, project, and initiative. Talent sourcing strategies should be based on the following considerations:

▶ Is a talent need transitory or long term?
▶ At what stages of a project life cycle is talent needed?
▶ Can needed talent be found and hired?
▶ Is talent extant in the IT organization but needed for other critical initiatives?
▶ Is talent extant in the IT organization but underutilized and needed for more advanced work?
▶ Can automation augment or replace human workers?

IDC research has found that the skill of the IT organization contributes more than 40% of the improvement organizations realize for any digital transformation investment. What’s needed to enable scalability and advanced skill sets is a partner that can supply needed talent, and then help transition to automated solutions wherever possible by blending human intelligence, analytics, and AI/ML to solve diverse needs.

The skill of the IT organization contributes more than 40% of the improvement organizations realize for any digital transformation investment.
Enabling IT Resilience and Agility with On-Demand Skills

Acquiring skills and procuring expert resources will continue to be an enterprise imperative for the foreseeable future. The pace of technology change will continue to accelerate, as enterprises race to adopt digital technologies faster, transform business models, and drive innovation. IT teams must try to keep up. As such, enterprises must rethink their strategies for expertise and resources or risk being competitively disrupted, missing innovation opportunities, or exposing the business to unforeseen risks.

According to IDC’s 2022 Future of Work Survey, enterprises will employ a variety of strategies for hiring talent, with their preference for hiring full-time employees (FTEs) and contractors at 56% and 45%, respectively. Interestingly, leveraging automation to help reduce manual tasks is growing in importance, growing from 37% to 45% year over year. This study highlights an important trend for enterprises that are augmenting talent by utilizing automation technologies. IDC believes that the use of automation helps free up IT resources to focus on more strategic and innovative initiatives versus tending to repeatable and manual tasks.

While leveraging automation can help alleviate already strapped IT resources, it is not meant to replace human workers. And enterprises are finding that while automation is extremely beneficial, it still leaves some gaps in the IT resource pool. IDC believes that managing and utilizing IT resources in a talent-scarce world will continue to evolve. An intelligent and contextualized use of resources is the direction that the market is moving. It will encompass a combination of highly skilled FTEs and a set of vetted contractors, which are coupled with automation embedded with AI/ML that can deeply understand the environment that has been designed to support business, operational, and technology goals.

Leveraging the Right Resources at the Right Time

Today, enterprises can see near-real-time health, alerts, and potential issues alongside a set of resources and tools to enable IT teams to work more efficiently and effectively. Learning resources such as playbooks, webinars, best practices documents, and other supporting IT materials are housed and delivered via a common dashboard. Along with these on-demand digital assets is the ability to tap into live multichannel expertise either via chat, phone, or scheduled in-person expertise, all of which are becoming more commonplace resources. These resources greatly help IT teams work more intelligently. As the devices, networks, and systems become more automated and intelligent, so too do the resources that support them.
In the next evolution of services, IDC believes that the use of telemetry will play an even greater role in supporting IT teams. By understanding the underlying infrastructure and its defined policies, these systems and services will provide contextual content and relevant resources that are more proactive, preemptive, and even predictive in nature by utilizing automation with AI and ML techniques. The ability to deliver expert resources at the right time helps eliminate the need for IT to scramble for resources when things go wrong or helps IT teams accelerate through a project life cycle, ensuring that design and configuration are correct or implementation runs smoothly. In addition, IDC believes that most enterprises will still need and want to engage with a live expert resource either online or in-person and will continue to contract with third-party expert resources to fill those skills gaps to help accelerate projects and IT initiatives.

**Considering Cisco Customer Experience Business Critical Services — Expert-as-a-Service Offering**

Cisco Customer Experience (CX) develops solutions that encompass all business units across the company, including products, services, sales, and marketing in support of a customer’s business, technology, and operational outcomes. The Cisco CX organization offers a portfolio of services, tools, expert resources, and solutions to help customers extract maximum value from their technology investments.

Customers can leverage Cisco’s investments in telemetry data collection coupled with artificial intelligence and machine learning to gain insight and intelligence from the devices, systems, and networks they have deployed. This intelligence, coupled with other Cisco resources including engineering talent, tools, platforms, knowledge bases, and account management, allows customers to effectively meet networking and business objectives.

Cisco CX has developed a suite of advisory and professional services through Business Critical Services, which are cross-architecture subscription services that help customers ensure optimal performance of the IT infrastructure. The Business Critical Services team has developed curated offerings that are aligned with a customer’s business, technology, and operational requirements so that customers receive the appropriate insight and analytics, training, expertise, and support throughout their technology life cycle.

Expert-as-a-Service is just one of many tools and resources that Cisco Business Critical Services provides to help customers with complex design, configuration, and implementation issues to ensure that the network is built and run reliably while diminishing potential risks. The AI-driven insights can help customers accelerate their projects more securely and efficiently than if it were just a human alone. Through Business Critical Services, customers receive continuous engagement with Cisco through Cisco’s insights, expert engagements, and customer success manager or via the many digital or live assets that Cisco provides. These offers are designed to help customers optimize and maintain their environments while helping accelerate innovation. This added layer of expertise via a subscription model helps enterprise customers effectively maximize their own limited internal resources and utilize them more strategically for innovation and growth.
Challenges

Defining a modern digital strategy in alignment with business priorities is complex, given limited IT resources and the pace of change. Cisco Business Critical Services bring a suite of tools for insights and operational best practices to bear on the challenge, coupled with infrastructure expertise and resources to help enterprise customers successfully navigate their digital journey with limited IT resources. Cisco Business Critical Services’ strategic guidance can simplify complexity and deliver the speed and performance required to support new capabilities. However, it will be essential that Cisco helps guide its customers through the business case of leveraging expert resources in a subscription model in conjunction with other talent acquisition strategies that will maximize investment and enable technology innovation and pace of change. Customers will look for Cisco Business Critical Services’ strategic guidance and best practices when it comes to streamlining processes.
Conclusion

It is clear that the pace of change will not slow and that highly skilled technical resources are in greater demand than ever. As discussed previously, enterprises must strategically rethink their IT sourcing strategies, which will become an amalgam of skilled FTEs, vetted contractors, digital tools, and contextualized learning modules that are fueled by AI and ML to augment and support human workers. Understanding the market dynamics of talent and the variety of resources that are now available to enterprises is critical.

IT teams need to consider the following questions when looking for a partner to help augment and accelerate their IT initiatives:

► Look for a partner that has invested significantly in the underlying platform, ensuring that telemetry coupled with AI/ML techniques can present the right insights in near real time.

► Ensure the depth and breadth of digital assets and resources align with your technology and operational requirements. Are they housed in easy-to-navigate dashboards? Are there multichannel communications options?

► Understand the technology certifications and skill sets that your partner brings to bear. Do they meet your technology and operational requirements?

► What are the various contractual or subscription offers that are available?

► Are resources offshore, nearshore, or in locations that are relevant for your business operations?

► Are there case studies or customer references that illustrate the business, technology, and operational gains that have been made as a result of utilizing these services?

► Does the partner offer a customer success manager that continuously helps you align resources with technology objectives, provides guidance about resources available, and provides a continuous cadence for operational success?

Many IT organizations have identified an immediate need to either acquire or develop emerging technical skills and leadership capabilities to effectively compete in today’s marketplace and meet future business demands. IDC believes that IT leaders need to be thinking now about the state of the IT talent and skills pool in order to build a resilient and agile organization. By using third-party expert resources, IT teams can optimize the organization’s use of technology and fill skills gaps in line with rapidly changing business priorities.
About the Analysts

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