The IT Shortage

Maintaining a competitive infrastructure, minimizing risks and maximizing the budget —

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ABSTRACT

The United States has always struggled to meet the demand for tech skills, and recently it's only been exacerbated by additional converging factors in the middle of the pandemic. U.S. companies simply can't source enough tech talent, and need to look at different ways to create this net-new supply of highly qualified tech professionals. (1)

The role of IT professionals in business has exploded over the last decade with the reliance on infrastructure technology, consumer/client gateways, and the development of in-house software. The more innovative businesses become with their technology, the greater they are at risk of technological failures or attacks. Failures in operating systems, networks, hardware, or security can all require lengthy recovery times and have the potential to halt business operations making IT staff some of the most valuable members of a business team. It's no wonder IT specialist are in the highest demand of any profession across nearly every industry – a trend that is predicted to escalate over the next decade. This paper will outline what may be the only recourse for businesses in light of the IT shortage, the outsourcing of infrastructure management, and how it may allow businesses to remain competitive while minimizing risks and maximizing their budget.

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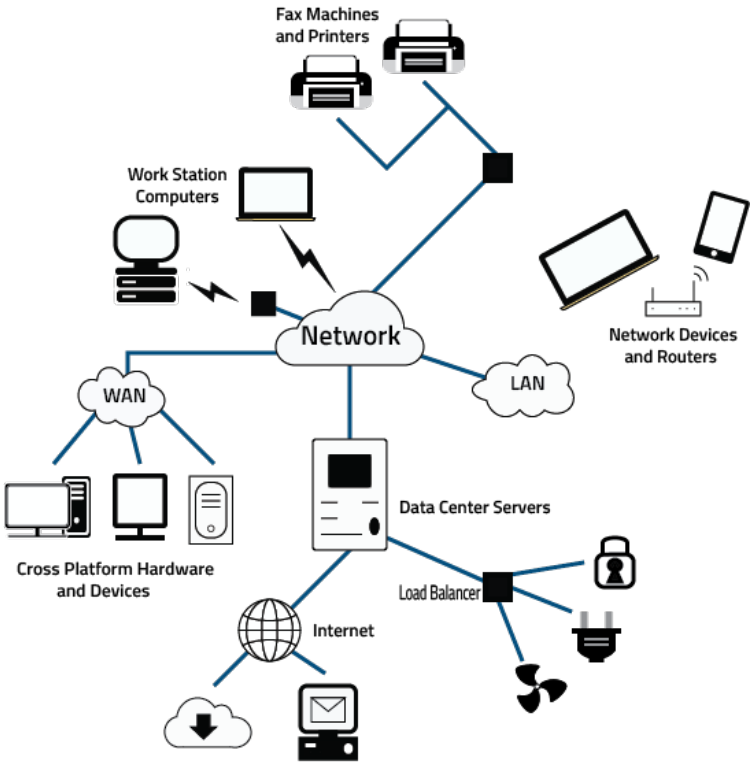
The Basic Business Infrastructure

The IT infrastructure serves as the foundation of every operational process for the modern business. The infrastructure consists of all the varying technology, both virtual and physical, that manages a business's critical data and connects its users. Failures in infrastructure pose two major threats; they can lead to security breaches leaving the business open to cyberattacks, extortion, theft, and compliance issues, and/or a debilitating system collapse which could force a halt in operations.

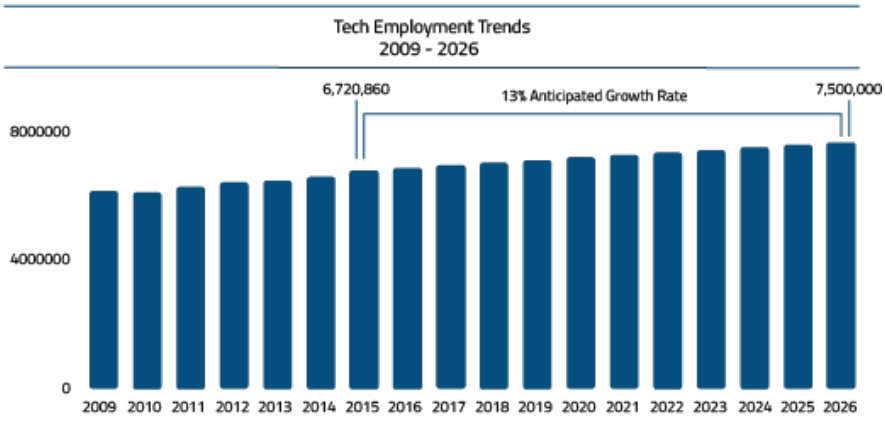


Managing a business infrastructure is no small task. An IT infrastructure includes a lot of hardware. The kinds of hardware can vary from workstation computers, to office fax machines, printers, data center servers, network devices and routers, internet components such as antennas or load balancers, as well as a vast amount of physical components necessary for power, cooling and security. An IT infrastructure also includes all of the software and applications being utilized by the hardware or other devices. These are any operating systems, applications such as office suites or other desktop productivity tools, as well as web services which delegate connectivity and access to the business network or the internet. Maintenance on each of these components requires a number of specialized skillsets, dedicated monitoring, tools and routine updating of software certificates, patches or storage demands. The bigger the business, the larger the infrastructure and the more demanding it will be to maintain.

The IT Shortage

> **"We're as close as possible to our unemployment rate being zero."**
> **-Sam Olyaei, Gartner senior research analyst (2).**

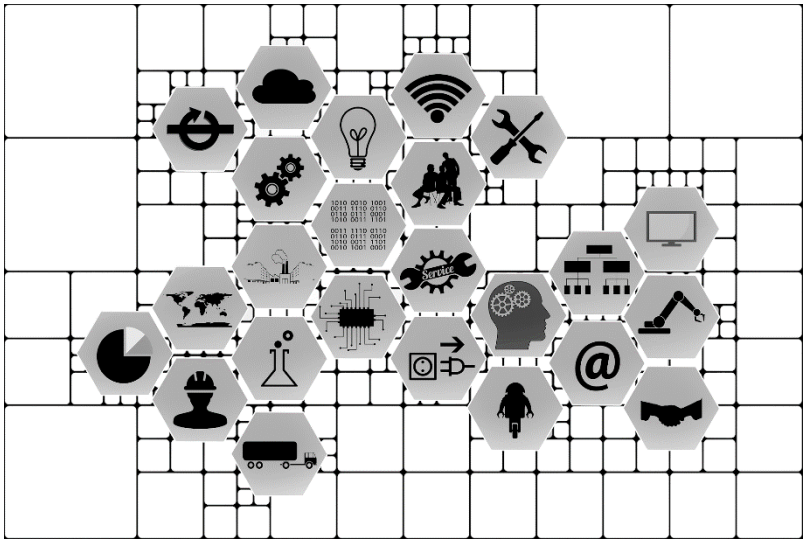
As the modern business relies more on computer based processes for daily operations, and businesses of all sizes have become targets for cybercrime, IT professionals are a hot commodity. The Bureau of Labor Statistics projects an 11% increase in employment in computer and information technology occupations over the next decade, more than all other occupations combined (3). Couple that with the fact that new developments are being made in the industry at breakneck speed, creating a feedback loop of competitive innovation with a continuous demand for dynamic talent, then it's not difficult to understand how we have arrived at a professional shortage in the industry.



IT professionals are not a one-size-fits all. The industry includes an expansive range of specific competencies from data administrators, computer architects and desktop support, to programmers, security analysts and technical engineers. Because the range of skillsets is so broad, it can be difficult for smaller businesses to be certain their IT departments can offer complete support. Likewise, professionals with certain areas of expertise are in even higher demand than others. Due to the increasing instances of cyberattacks and costly data breaches, it's estimated that cyber security specialists alone will reach a global deficit of 1.8 million by 2022 (4).

The Operational Dilemma

The growing shortage of IT professionals has created an operational dilemma for the modern business; either attempt to maintain infrastructure with a bare bones staff or take it in your budget and try to buy your way out of the problem. Both options are impractical as long-term solutions and can bring unforeseen consequences.



Budget Busting

It may be tempting for businesses to try and buy their way out of this problem by increasing their payroll budget. The average Information Technology salary in the United States is $199,895 as of September 25, 2020. Other positions in the IT sector range from $57,570 -to- $342,220 (5). According to *Workforce* magazine, the number of IT staff needed per employee can range greatly by the size of your organization. The median number for all companies was one IT professional per 27 employees (6). Though unrealistic, for the ease of estimation, let's assume only low-level IT professionals are required to maintain the infrastructure. That means a small business of 100 employees would spend close to $240K a year on their IT staff. Larger organizations (which will have the additional problem of larger more complicated infrastructures) would resemble roughly $1.1 million for a company of 600, and over $2 million for a company of 1000. Aside from the demands of the business's infrastructure, which must be taken into consideration, the competitive nature of a "zero unemployment" industry has to also be factored into the budget**.** Because of the shortage, IT professionals are not likely to accept a minimum salary. Which means…

Businesses trying to remain competitive may find themselves in the middle of a wage war.

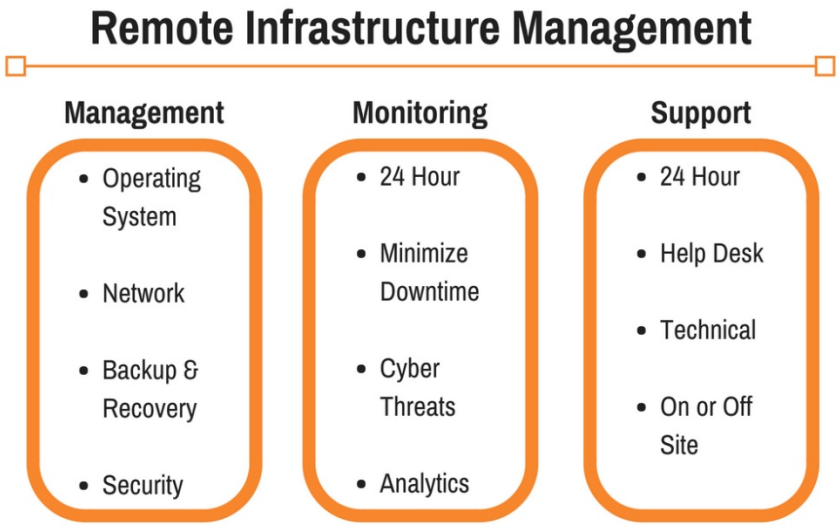
Skeleton Crew

The other option is to try to manage with a bare-bones IT department. Businesses attempting this strategy put themselves at massive risk in the event of a serious failure. One knows what damage can be done when a phone line goes down; imagine losing all the computers in your network. Small departments are not likely equipped to handle large scale catastrophes. Additionally, if you've tried to cut corners by hiring only low-level professionals, then they may not have the experience or skillset to manage every possible disaster which could prolong down-time and potentially exacerbate the problem. There are other side effects to this strategy that often go without consideration and can be just as detrimental to a business's operations. The most common is "firefighter" syndrome; when your IT department is so minimal that they spend all of their time putting out fires rather than preventing them. This can have serious repercussions as things that need regular attention go overlooked. Eighty per cent of companies who suffered massive security breaches could have prevented them had they updated a software patch or configuration in a timely manner (7). If your IT department is primarily focused on fighting fires, then your business is missing out on time that could be spent improving your infrastructure and maximizing performance potential. Another unforeseen consequence of running a skeleton crew is wasted talent. Putting out fires and engaging your IT staff in menial maintenance tasks takes their attention away from innovation. Competitive companies are utilizing their IT staff for in-house development, improving business processes, and getting more out of their technology. That is, after all, another reason why IT professionals are so valuable.

With both options creating opportunities for risk and mismanagement, companies are forced to look for alternatives. As is often said "desperation sometimes drives innovation" and the combination of shortage and demand for IT professionals has made way for a third-party approach. Many companies are now outsourcing their IT needs in an effort to circumvent the issue. While this may not eliminate the need for an on-site IT department entirely, there are several benefits, and it can alleviate some of the burden on in-house departments, freeing them up to focus on more progressive projects.

RIM Services: A Third-party Solution

Remote Infrastructure Management (RIM) refers to the outsourcing of a business's infrastructure management to a professional service company by way of remote access. RIM services can handle nearly every routine need for business infrastructures of all sizes. In 2009, a Gartner report estimated that at least 70% of IT support for a business infrastructure can be managed remotely, and that number only increases with new innovations in technology (8). In 2020, with the advent of the cloud and the coronavirus pandemic, this number has risen much higher. Due to the scalable nature of services, many businesses are finding RIM a popular and more affordable remedy to the IT shortage. RIM Services are comprised of three primary functions: management, monitoring and support.



Management

RIM Services manage the key components of your infrastructure. This means tending to the regular needs of not only your data center but the administration of your operating systems, upgrades and patching for network services and applications, establishing backup and recovery methods, and maintaining security. RIM Services have the ability to manage both optimizations within your infrastructure and any problems which may occur. Far from a "firefighter" mentality, a process-based approach offers more in the way of prevention, efficiency and quality service.

Monitoring

RIM Services offer something that many in-house IT departments cannot: *24 hour monitoring*. This means, they have the ability to address issues at the moment they occur giving businesses the advantage of real-time control. Time can be an important factor if your infrastructure is experiencing a

failure. Minimizing downtime can prevent a halt in operations and quickly deny access to a cyber threat. Effective monitoring is often the best way to troubleshoot performance issues. In depth analytics can be difficult for smaller IT departments to manage, yet simple for service providers who are equipped with proven processes and all the necessary tools.

Support

RIM Services can be utilized for support in a number of ways. Many services include "Help Desk" support, offering employees and customers a main line to tech support outside of the business establishment. Help Desks can also provide professional support in your off hours allowing businesses to boast 24 hour support for their customers. RIM services also provide tech support for the IT department. This means, departments benefit from both the additional resources and the experience of numerous multi-level professionals. Many service providers even offer on-site support in the event of infrastructure modernization, hardware installation or a serious failure.

> **"Remote infrastructure management services can reduce labor costs by 10% to 50% … resulting in a 3% to 30% overall net savings" –Gartner (8)**

By delivering round-the-clock services and access to top level IT professionals, RIM Services may offer the highest value for a business's IT budget. A lighter, on-site workload for IT means some businesses can get away with a thinner department, lowering and better prioritizing their payroll expenses. Services are equipped with the latest trade tools and certifications negating the necessity for businesses to acquire them themselves. The individualized nature of RIM Services means businesses aren't paying for what they don't need. And, with the support of outside professionals, your IT team can work on progressive agendas that drive business objectives, encouraging focus on core concerns and thus boosting overall performance.

Conclusion

Industry forecasts points to an increasing shortage of affordable IT professionals over the next decade, putting many businesses at a disadvantage if they wish to remain competitive and negate risks to their infrastructure. Neglecting IT infrastructure can inflict serious damage to a business in the form of expensive recovery, down-time and potential security breaches. Outsourcing infrastructure management may prove to be the solution to this growing problem. RIM Services offer companies affordable access to the latest technology, tools and industry experts, while freeing up IT departments to focus on developing innovations and improving business-specific processes to promote growth.

Afterword

KG Hawes provides some of the most comprehensive Database, Infrastructure Management and Network Security Services available. Our RIM Team will provide your company with round-the-clock services to maintain your IT Infrastructure. With fast issue-resolution times, our infrastructure team is able to maintain quality, manage risks, reduce costs, and ensure business permanence. Our approach addresses 100% production uptime, process and security compliance, service level agreement support, and an overall reduction in your company's Total Cost of Ownership. These services are overseen by experts with the experience and certifications to ensure business continuity even in cases of unanticipated business threats.

Our RIM Services Guarantee

- 24/7, 365 Monitoring, Management & Support
- Equipment Operating at Peak Performance
- On-site Support as Needed
- Experienced Technical Support Teams up-to-date on all the Latest Compliance, Process, & Security Standards
- Scalable & Customized Services Based on your Company's Need

Contact us for more information about how our team can work for you.

1-866-687-9006 or contact@kghawes.com

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