

A House Divided: Dysfunctional Relationships Between Network and Cloud Teams Put Cloud Strategies at Risk

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Executive Summary

As companies accelerate cloud adoption, only 28% consider themselves fully successful with realizing the benefits of their cloud investments. Why?

As this research shows, networking is a sticking point. Specifically, success hinges on a company's ability to integrate its cloud team and traditional network infrastructure team at all levels (design, implementation, and operation). The impacts of not doing so are striking:

- 73% of enterprises have experienced security and compliance issues as a result of poor collaboration between the two groups
- 89% have experienced IT operations issues
- 82% have suffered business-level problems

Networking in hybrid cloud environments is so important to get right. For instance, a DNS or IP addressing issue can add years to a multi-million-dollar project's timeline. This report explores why this partnership is so critical, the consequences of failed partnerships, and best practices from the most successful enterprises that IT executives can implement.

The findings in this research are based on a survey of 212 networking and cloud professionals conducted in March 2021 by Enterprise Management Associates (EMA) and BlueCat Networks.





Most Enterprises Aren't Realizing
the Full Potential of the Cloud

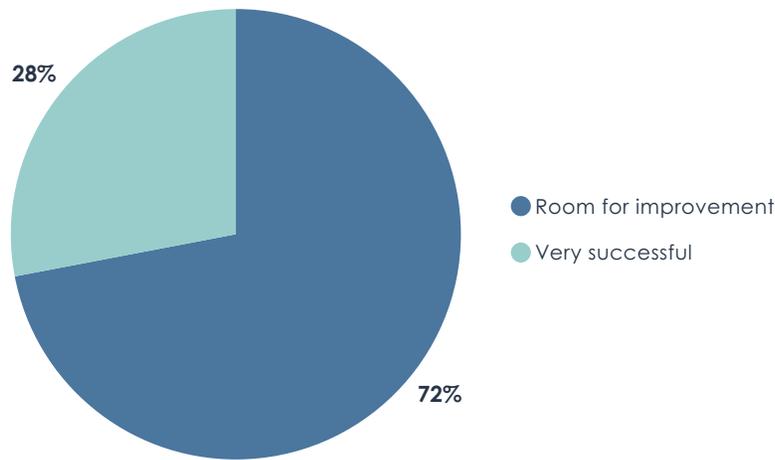


Figure 1. Success with achieving the benefits of cloud investments

Only 28% of enterprises consider themselves fully successful with realizing the benefits of their cloud investments. As **Figure 1** reveals, 72% see room for improvement.

Why aren't they doing better? Cloud networking can make or break these investments. This research asked participants to describe how cloud and network teams collaborate on cloud networking design, implementation, and operations. Close collaboration is a best practice. **Figure 2** demonstrates that the most successful enterprises are more likely to fully converge networking and cloud teams to perform these functions.

However, while many enterprises have fully integrated network and cloud teams in all three areas, most maintain separate teams with varying degrees of collaboration. Some have established shared tools and processes between silos. Some rely on ad hoc collaboration.

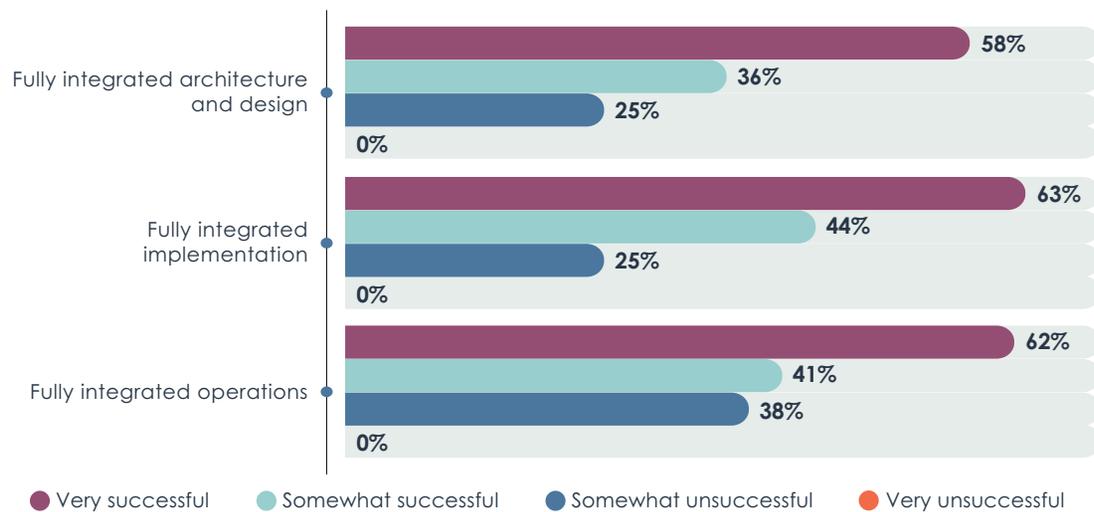
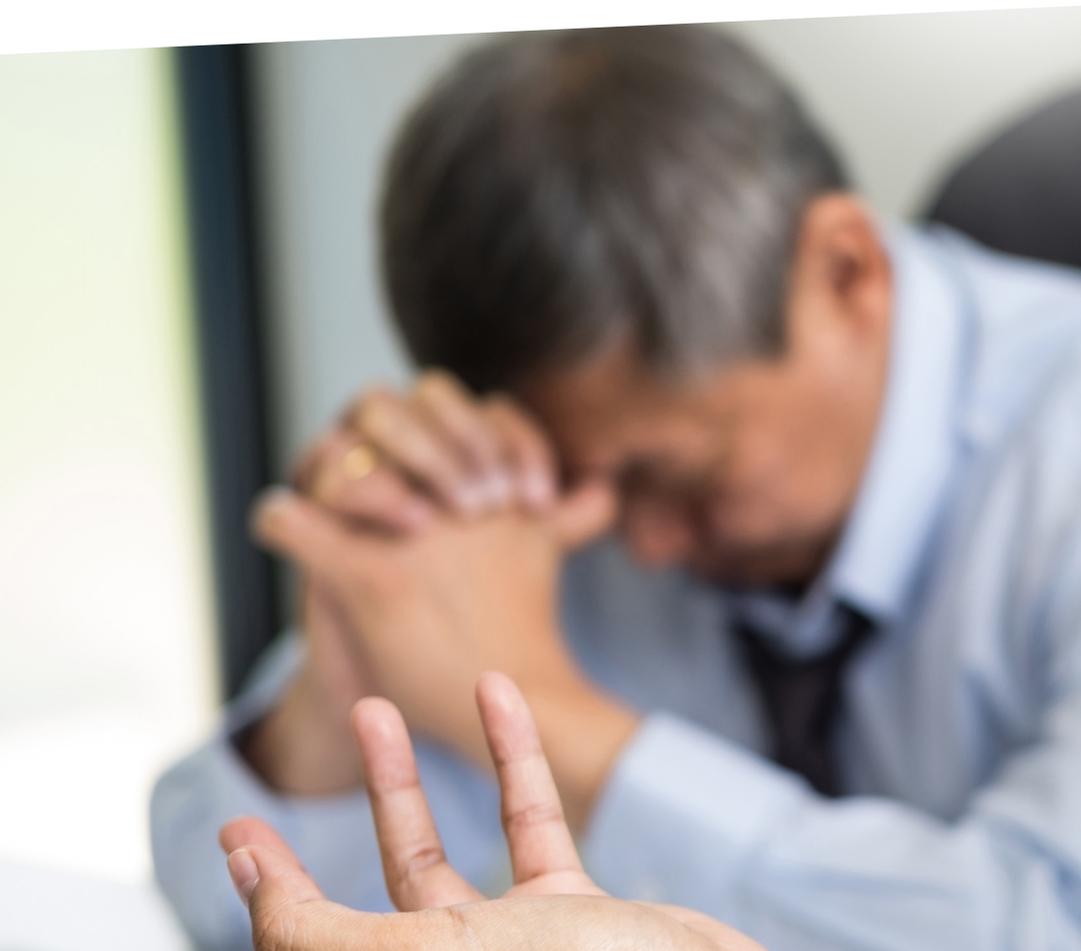


Figure 2. Success in the cloud correlates with fully integrated cloud and network teams

This research found that cloud teams are more likely to perceive a unified approach to cloud networks, as well as report higher success of a cloud adoption initiative, than the network team. This suggests that certain groups within the on-premises network organization are being left out of conversations about the cloud, and that not everybody sees the full extent of issues arising from poor cloud adoption efforts.

This report will show why that needs to change and how to spark that change. Close, successful partnerships between cloud and networking teams can optimize cloud investments.



Everywhere I look, there is too little communication between the [cloud team] and the network infrastructure team. We need more insight into what applications are developing in the cloud and why so we can collaborate.



A network architect at a \$2.5 billion cybersecurity company in an interview with EMA.





Why Collaboration is Essential

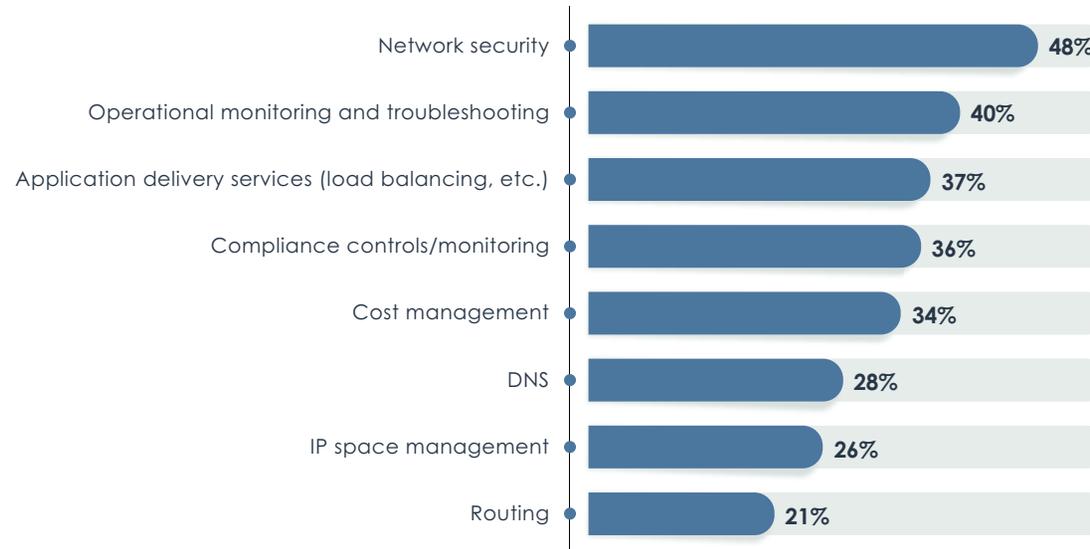


Figure 3. Aspects of cloud networking that most benefit from effective collaboration between network and cloud teams

Networking is an essential foundation of cloud success. While many aspects of networking are abstracted away by cloud providers, logical networks within an infrastructure as a service (IaaS) environment must be designed and implemented for security, performance, and availability. Also, many of the native tools that cloud providers offer for building and managing networks are immature compared to on-premises networks. **This poses a problem for architecture consistency and connectivity across hybrid and multi-cloud environments.**

Software as a service (SaaS) applications should also be a subject of collaboration. When application teams adopt SaaS solutions, the network team must be ready to help users access these services. The cloud team must recognize that this requires **additional networking expertise** at the cloud edge and beyond.

Figure 3 reveals the aspects of cloud networking that benefit most from successful collaboration between network and cloud teams. Nearly half of enterprises see benefits for network security. Monitoring and troubleshooting, application delivery services, compliance, and cost management also improve for many enterprises. More than one-quarter of enterprises see both DNS management and IP space management improve when cloud and network teams work well together.

Enterprises that are most successful with cloud investments were more likely (37%) to single out IP space management as something that is improved with collaboration, suggesting that a unified approach to IP space management is a best practice. DNS and IP space management are core network services that must be reliable and consistent across on-premises and cloud infrastructure.

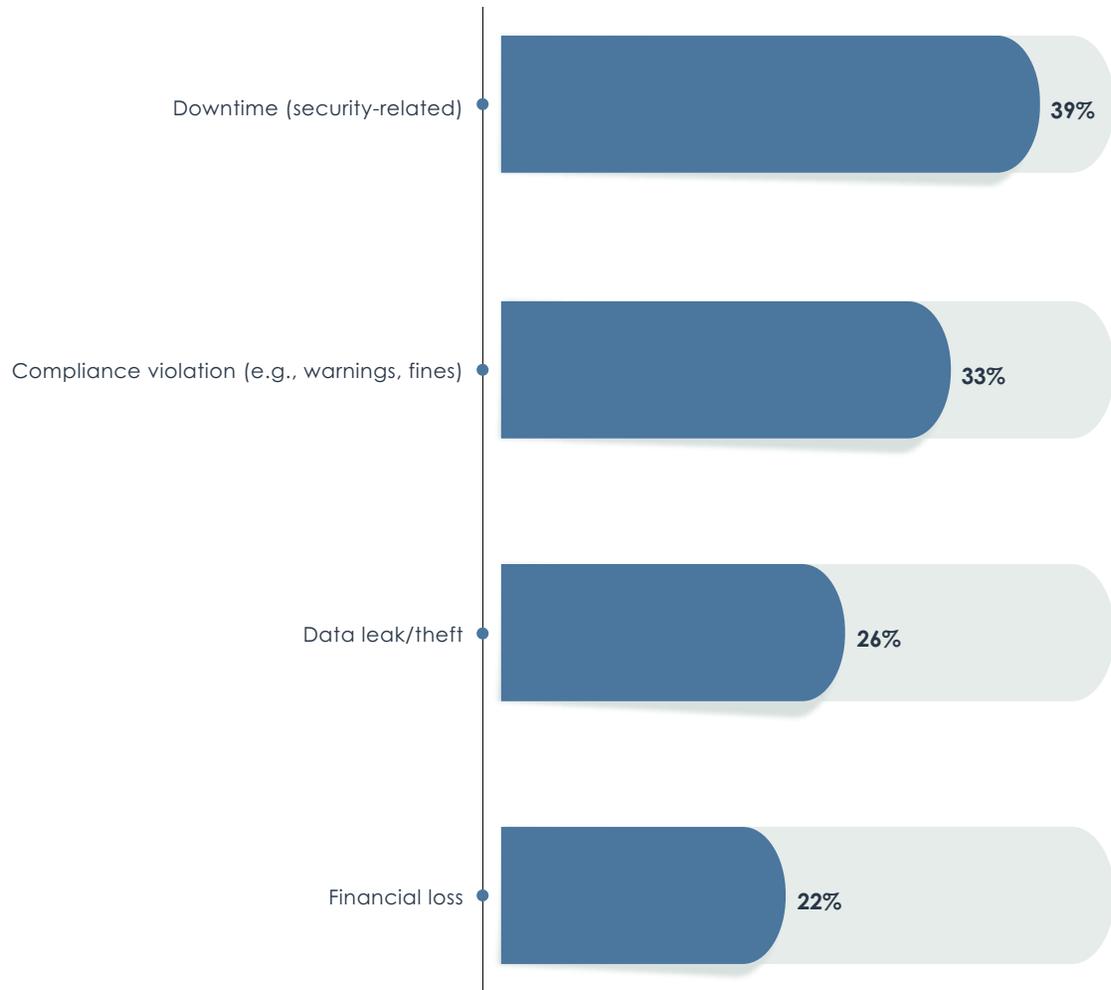


Figure 4. Security and compliance problems caused over the last year by challenges to network and cloud team collaboration



Everything needs to be unified. The cloud space needs to talk to all the other spaces. Any issue with IP addressing could add another one to five years to a project that costs millions to resolve. Same thing with DNS. It needs to be unified.



A network architect at a \$2.5 billion cybersecurity company.



The importance of this collaboration becomes more apparent when one looks at what happens when collaboration is lacking. For instance, **73% of enterprises have experienced security or compliance problems over the last year due to poor collaboration between network and cloud teams.** Figure 4 reveals that security-related downtime is the most frequent issue, but many also experience compliance violations and more than one-quarter suffered a data leak.

Worryingly, as security-related incidents are communicated to employees on a need-to-know basis, the reports from this research likely underrepresent the true extent of negative security and compliance outcomes that result from poor collaboration.

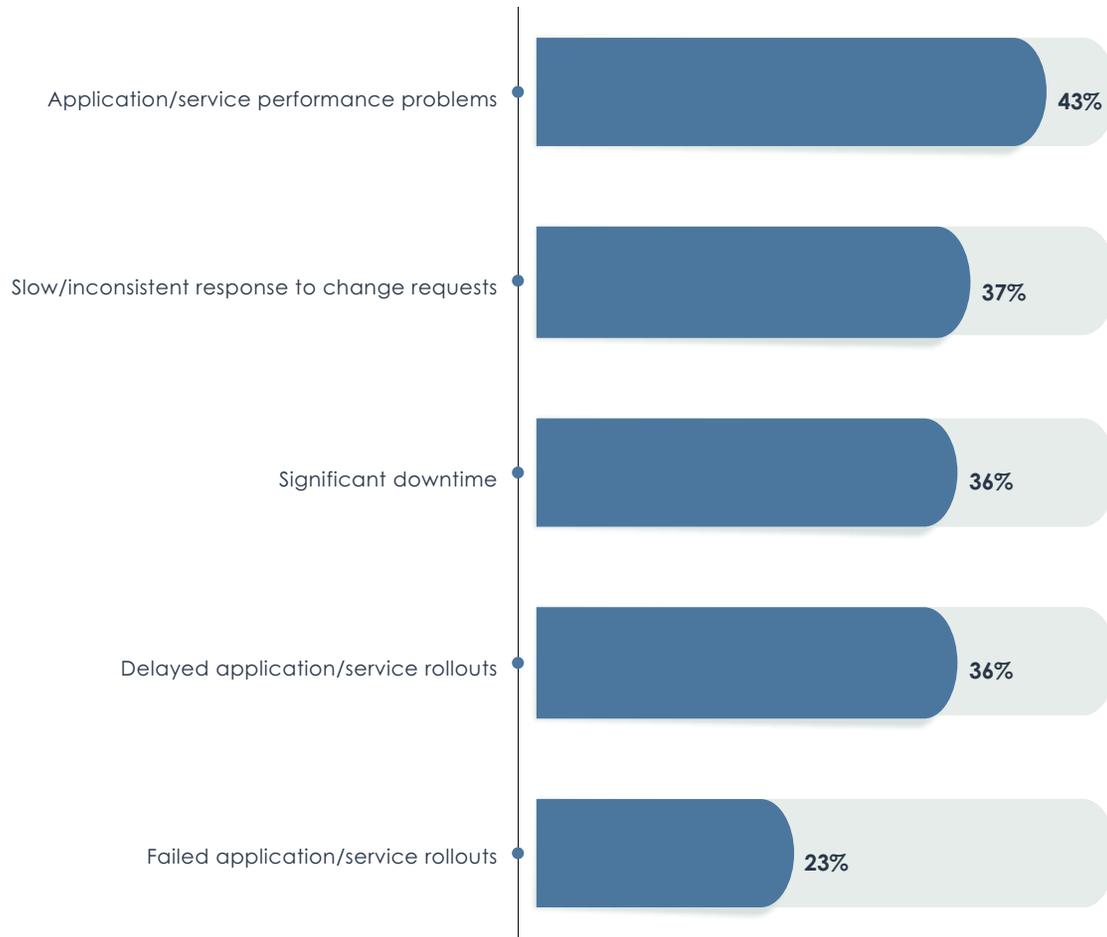


Figure 5. IT operations problems caused over the last year by challenges to network and cloud team collaboration

A network architect described to EMA an issue he experienced at a \$120 billion bank when the network team and cloud team failed to collaborate. “I’ve seen red team penetration tester findings that said they could do x or y in our cloud, where we had previously thought things were secure.”

Figure 5 reveals that 89% of enterprises have experienced an IT operations problem over the last year due to collaboration failures. Poor performance of cloud applications was the most common issue. Many others reported slowed responses to change and application rollout delays. Nearly one-quarter of enterprises reported failed application rollouts due to network and cloud team collaboration problems.

89% of enterprises have experienced an IT operations problem over the last year due to collaboration failures.

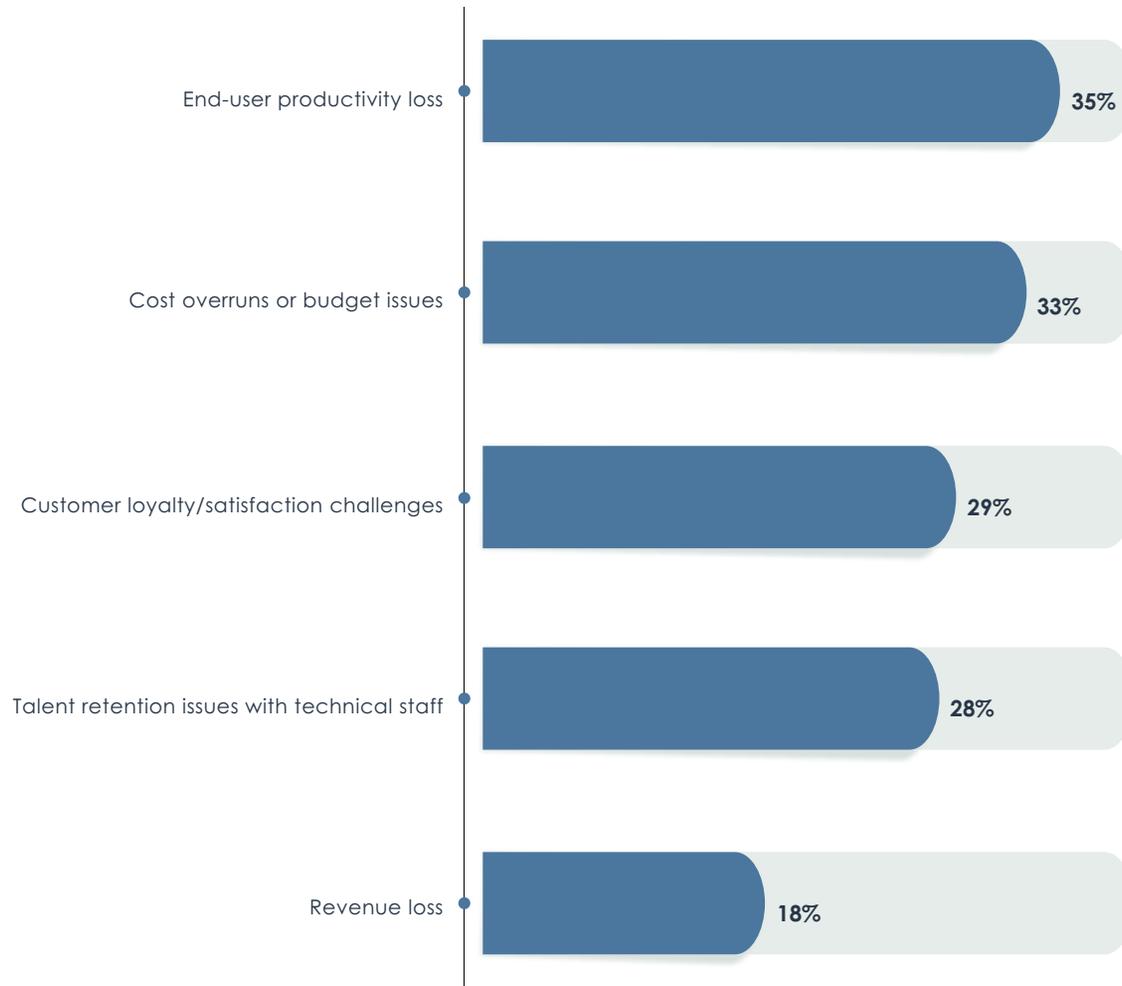


Figure 6. Business problems caused over the last year by challenges to network and cloud team collaboration

Finally, **82% of enterprises have experienced business problems related to this poor collaboration over the last year.** Figure 6 shows that lost end-user productivity is the most common business problem. Many also reported cost overruns, customer churn, and turnover within the IT organization.

A cloud architect with an \$18 billion financial services company said he’s seen high staff turnover and missed deadlines on application rollouts. He also talked about technical debt. “You’re making bad decisions because you’re being pushed to do something within a given timeframe. Systems get more and more complicated and difficult to manage.”



Building Bridges for Better Collaboration



Figure 7. Primary barriers to establishing cooperation and collaboration between the on-premises network infrastructure team and the cloud team

Make remedying poor collaboration a C-level initiative

While only 34% of research participants believed that executive leadership is doing a very good job at pushing for better network and cloud team collaboration, very successful enterprises were almost twice as likely to say so (58%). Obviously, executives need to push hard to bring networking and cloud teams together. This means supporting the centralization of cloud adoption efforts where possible, aligning goals across both groups, and pushing both teams together from the top down.

Why? **Figure 7** shows that these two groups frequently have conflicting goals that prevent them from working well together. Network teams are about stability, security, and change control. The cloud team is focused on flexibility and scalability. The situation is exacerbated by the fact that 41% of cloud adoption is not led by centralized IT leadership, like the CIO, but instead by other sources, including developers, non-technical leadership, and individual business units.

Delegating responsibility for integration between networking and cloud teams is not a good solution. Middle management on both sides of the networking and cloud divide might have entrenched points of view on this issue. The directors of siloed teams are often content to maintain the walls of those siloes. Leaving staff further down the hierarchy to stitch together a poorly designed hybrid environment is a recipe for failure.



Once you get down a tier or two to the managers and directors, they say, ‘This is the way we’ve done it. It has to be this way.’ People don’t look at alternatives because that means they’re wrong. You need to have a change program that addresses those middle management tiers specifically to get synthesis of new ideas that both groups own. Bridging that gap is probably the hardest thing to do.



A cloud architect at an \$18 billion financial services company.



Make sure the network team is an equal partner at the cloud table

The on-premises network team needs an equal seat at the table when enterprises invest in the cloud. **Figure 8** reveals that 88% of research respondents

believe that the on-premises network team must have visibility and input into cloud design. This is a best practice.

*Enterprises with the most success in the cloud are the most likely to say that visibility and input are **critical.***

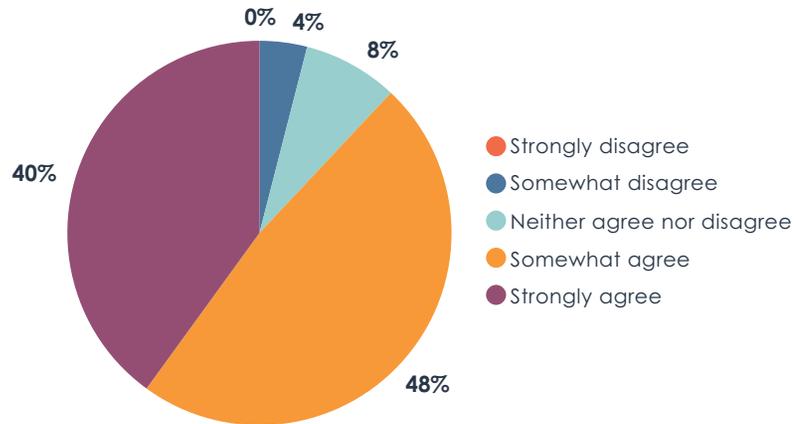


Figure 8. Do you agree that on-premises network infrastructure teams need visibility and input into cloud design decisions that affect endpoint connectivity into the cloud?

In an interview with EMA, a cloud architect with an \$18 billion financial services company described the value that each of these two groups bring to the table: “The network team brings a good amount of process and thought around stability. And they understand networking primitives at a more fundamental level. The cloud team brings a more flexible and open-minded perspective. They can light the fire of creativity in teams that are really baked into their way of doing things.”

This will require a shakeup of tools and processes. Only 28% of both cloud and networking professionals believe that they have very good visibility into changes made in cloud networks. But, again, very successful organizations are twice as likely to be satisfied with their change visibility (57%). IT leaders must push for processes and procedures that allow both groups to know what is happening across the hybrid cloud environment. The network team’s expertise can be essential to the success of a cloud strategy, which is why its partnership with the cloud team is so important.



At a minimum, a representative of the network infrastructure team needs to be brought into more meetings to find out what the roadmap looks like. They need to know how connectivity is going to flow. They need to understand what failover testing is taking place. Then they can cross-train and bring information back to their teams. I was pushing for that at my last job, but it never happened.



A network architect at a \$2.5 billion cybersecurity firm.



Unify and modernize DDI, security, and compliance across domains

Network and cloud teams should also move to unify their tools and practices for designing, building, and operating hybrid cloud networks. This research found that the majority of enterprises are fully unifying DNS management and security across on-premises and cloud networks. Nearly half fully unify compliance management. IP address space management is also an essential target

What is DDI?

DDI stands for DNS, DHCP, and IP address management.

for unification. While only 40% fully unify IP address space management, nearly all of the unsuccessful cloud adopters in this research keep IP space management at least partially siloed. Siloed management of critical services like DNS and IP space management is almost certainly a bad strategy.

Furthermore, network professionals are more likely to perceive problems with vendors as a cause of poor integration between the two teams. For example, they might believe that the networking features offered natively by cloud providers are insufficient to meet their requirements. They aren't wrong. The research showed that the most successful organizations were more than twice as likely (53% compared to 25%) to say their management tools were very good. Siloed management in general creates too much complexity and fragments visibility and control.



Did you know you can use your on-prem DDI tools to unify hybrid cloud IP space? BlueCat shows you how, [here](#).

Ensure each team is well stocked on all the necessary skills

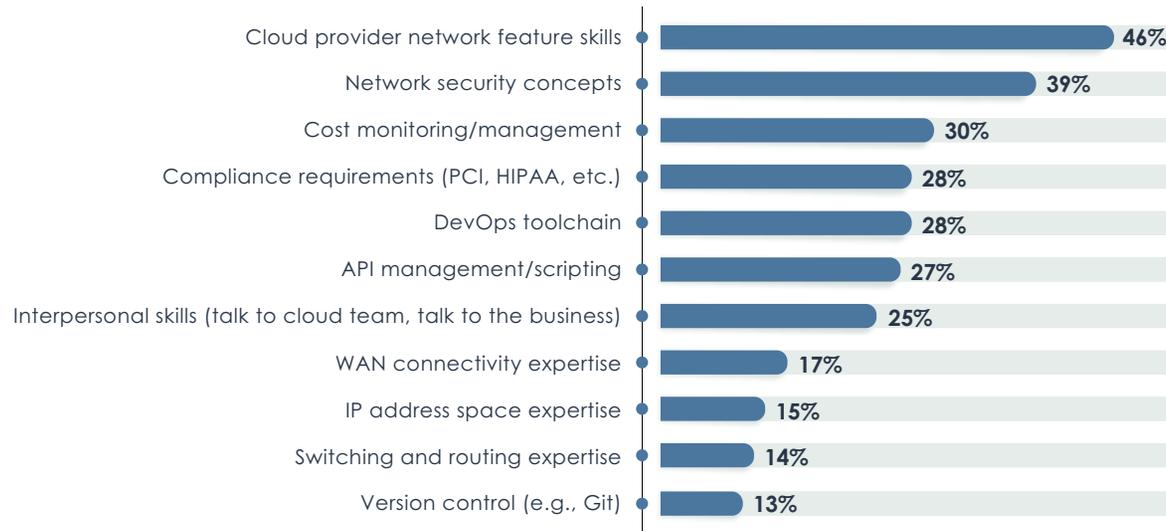


Figure 9. Knowledge and skills most important to building and managing hybrid cloud networks and multi-cloud networks

Finally, IT execs need to close the skills gaps between their two teams. Cloud teams have a limited understanding of networking, and network teams are not up-to-date with the tools and solutions that cloud teams use.



At [my previous employer], they wanted me to keep working on the same non-cloud projects—but then when they ran into cloud infrastructure problems, they would pull me in, not realizing it's all new. There is no magic easy button for network infrastructure in the cloud.



A network architect at a \$2.5 billion cybersecurity company.



Figure 9 reveals the skills and knowledge that are most important for building and managing hybrid cloud networks and multi-cloud networks. This is

what network and cloud teams should focus on when trying to close skills gaps. The top priority is learning the network features and services of cloud providers. Network teams in particular will need access to **the network capabilities of the individual cloud provider, since features and capabilities vary from provider to provider.**

Network security expertise is the other top priority. When designing and building in the cloud, these teams need people who understand how to build effective firewall rules and segmentation. Cost management, compliance, DevOps toolchain expertise, facility with APIs, and interpersonal skills are also quite important.

These skills gaps can be closed via training and by giving network and cloud teams access to technologies and tools used by their peers in the other silo. The training can be formal or informal. Shared access to tools and technology will give these teams hands-on experience that will help them acquire skills.



Conclusion

Cloud adoption is outpacing the growth of the data center, yet the benefits enterprises seek from the cloud are elusive. Before IT executives lean more heavily into the cloud, they must ensure their house is in order.

This research clearly shows that enterprises realize the full potential of their cloud efforts when they bring the cloud team and the network team closer together. Not doing so leads to:

- Security and compliance issues (73% of organizations)
- Operations issues (82% of organizations)
- Business-level consequences (89% of organizations)

IT executives clearly have a big job ahead of them. Collaboration between these teams is undermined by a host of factors. Leadership shortcomings, tooling issues, and skills gaps all keep network infrastructure and cloud teams from partnering as they ought to.

Integrating the two teams, who are not natural partners, will not be easy. This research offers advice on how to get started.

Above all, IT executives must accept that addressing dysfunction between cloud and networking teams should be on their agenda. IT executives should start by empowering network teams to be equal partners in the cloud journey. Too often, networking teams get involved too late.



BLUECAT™

About BlueCat Networks

BlueCat is the Adaptive DNS™ company. The company's mission is to help the world's largest organizations thrive on network complexity, from the edge to the core. To do this, BlueCat reimagined DNS. The result—Adaptive DNS™—is a dynamic, open, secure, scalable, and automated resource that supports the most challenging digital transformation initiatives, like adoption of hybrid cloud and rapid application development.

BlueCat's solutions enable networking teams to embrace hybrid cloud by using automation to provision at scale, centralize DDI data, and extend control over DNS resolution across wide and distributed networks. Learn more at www.bluecatnetworks.com.



Demographics

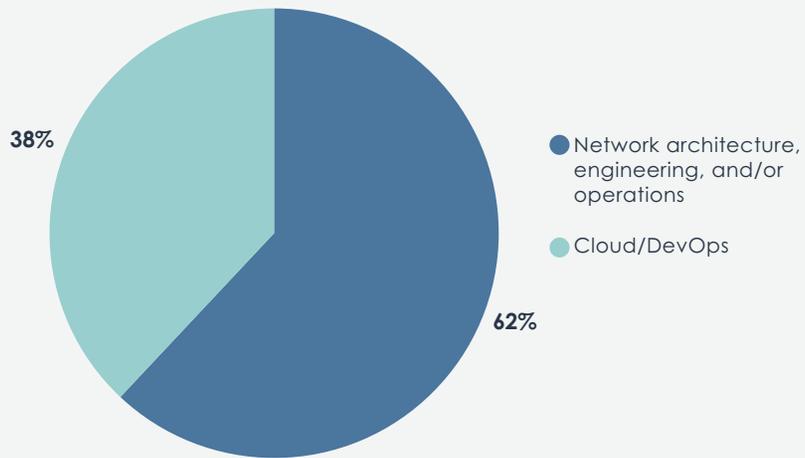


Figure 10. Which of the following best describes your group within your IT organization or cloud organization?

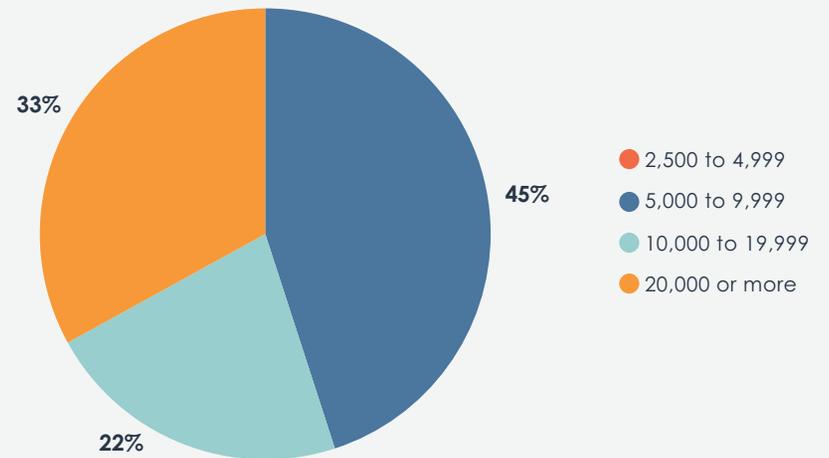


Figure 11. How many employees are in your company worldwide?

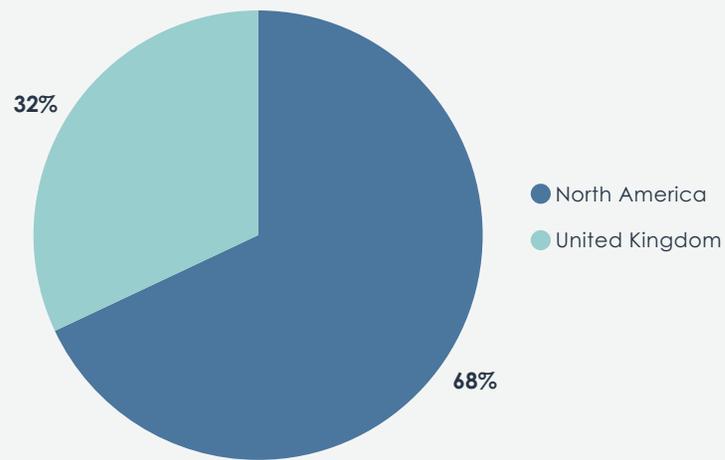


Figure 13. In which region are you located?

Sample Size = 212

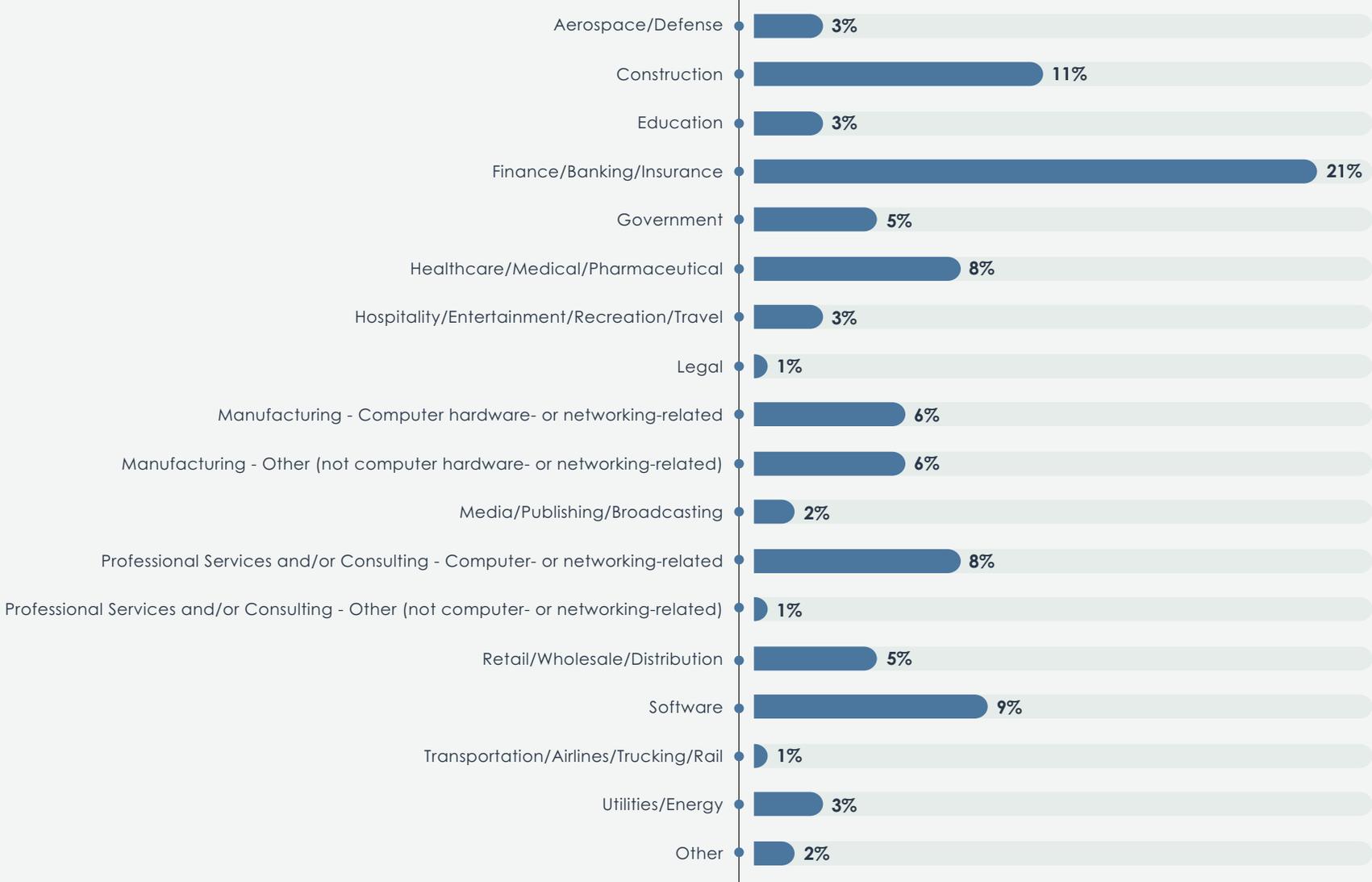


Figure 12. Which of the following best describes your company’s primary industry?

Sample Size = 212





25
YEARS

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at www.enterprisemanagement.com. You can also follow EMA on [Twitter](#) or [LinkedIn](#).

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