

## Digitally transforming cloud-native networking strategy

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Enterprises gain flexibility and scalability using hybrid and multicloud networks, but managing these diverse networks poses a challenge.

A key result of enterprise digital transformation has been the increased use of public and private clouds, as well as the preference for SaaS applications over applications developed in-house. In many cases, those custom applications resided entirely within a single environment throughout their life cycle. Applications tended to stay in place and were always accessible, and they had few, if any, dependencies outside the immediate environment. Networking in those environments was simple.

### Why enterprises prefer cloud-native applications now

- **Ease of use:** Enterprises need simple, self-service applications that are scalable and easy to use/manage.
- **Rapid deployment:** When speed is the need, ready-to-use, plug-and-play applications score high.
- **Dynamic environment:** A dynamic environment supports quick and frequent changes in business requirements without service disruption.

However, the increased use of cloud-native applications is imposing many more demands on the network, forcing enterprises to reassess their architectures and operations.

Cloud-native architectures such as containerization and serverless computing, along with execution venues existing in on-premises datacenters and in hybrid clouds, have effectively led to the breakdown of monolithic applications into components that can be scaled independently and can be distributed across two or more cloud instances, services and locations. Following the componentization of applications, cloud-native applications make more use of network-embedded features for essential services like load balancing, reliability, security and monitoring, which allows network connectivity and functions to be tightly coupled to the application components.

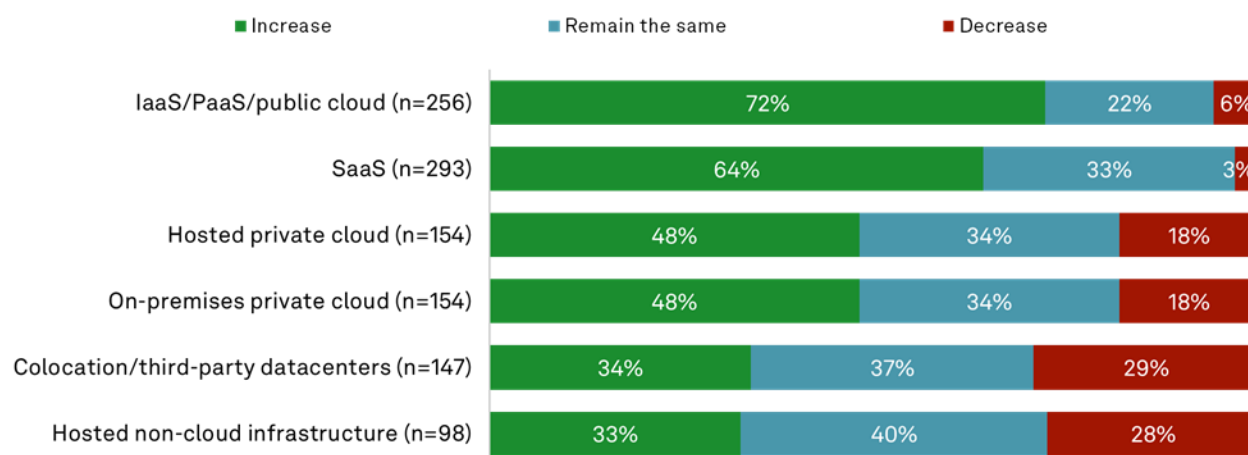
Enterprises shifting toward a cloud-native application architecture have increased expectations for secure networking and self-service with the ability to deploy and make changes rapidly. No one wants to wait days, weeks or months for a new environment to be spun up or to make a change.

### The enterprise advantage

Enterprises are using multiple types of networks for their cloud architectures. Data from 451 Research's Voice of the Enterprise: Datacenters, Datacenter & Cloud Network Services 2022 survey shows that enterprises are using networking services from a variety of sources such as IaaS cloud providers, managed services providers, telecommunication service providers, colocation datacenters and over-the-

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top networking vendors. When applications have relatively simple interconnection requirements that don't change, the variety of networking topologies is manageable. However, cloud-native applications are dynamic and are distributed across multiple locations. Managing the cloud networking environment means operating multiple networks with their own management systems and features. The operational work for IT has increased as a result, and it takes longer to make changes because network IT teams have to plan for multiple changes for multiple management systems. Even today, enterprises make network changes weekly, which will become burdensome as network complexity increases.



*Q. Looking at each of the following, please indicate if your organization's spending over the next 12 months will increase, decrease or remain the same compared to the previous 12 months?*

*Base: Users of each service listed*

*Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Budgets & Outlook 2022*

Additionally, features in the network such as load balancing, security and monitoring exacerbate the existing complexity of network changes. A critical factor in application reliability is consistency in the underlying network functions so that traffic is processed and secured in a predictable manner. Ensuring a consistent application of network features and policies also means having a consolidated and integrated management platform for all networking needs — a preference indicated by the vast majority of respondents to 451 Research's [Voice of the Enterprise: Datacenters, Datacenter & Cloud Network Services](#) 2022 survey. Not only will an integrated management platform ensure consistent policies are applied, but it will also streamline operations with integrated workflows and provide an integration point for developers to automate network self-service throughout an application's life cycle.

One solution is to consolidate network management to a single management system or service, reducing the number of changes IT has to make. Taking an integrated approach to network management can be a daunting task, but enterprises can rely on professional services and systems integrators to help with some or all of the transition to an automated, centrally managed network for their cloud-native

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infrastructure. The benefits of a dynamic network that can properly fulfill the demands of application and business owners and the reduction in manual management will likely provide a solid return on the investment.

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