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Next-generation IT infrastructure

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The next generation of IT infrastructure promises to reduce costs and improve effectiveness. Yet implementation requires overcoming several significant challenges, from security to economics.

The pressure on IT infrastructure leaders is unrelenting. They must deliver higher service levels and new IT-enabled capabilities, help accelerate application delivery, and do so while managing costs. As standard IT improvements near a breaking point, it's no wonder that many IT infrastructure leaders have started to look for more transformative options, including next-generation IT infrastructure (NGI)—a highly automated platform for the delivery of IT infrastructure services built on top of new and open technologies such as cloud computing. NGI promises leaner organizations that rely more on cloud-provider-level hardware and software efficiencies. In addition, NGI facilitates better support of new business needs opened up by big data, digital customer outreach, and mobile applications.

To understand how senior executives view NGI, we canvassed opinions from invitees to our semiannual Chief Infrastructure Technology Executive Roundtable. The results were revealing: executives expressed strong interest in all key NGI technologies, from open-source infrastructure-management environments to software-defined networking, software-as-a-service offerings, cloud orchestration and management, and application-configuration management. Yet most have not yet fully taken advantage of the promise of NGI, largely because of the up-front investment required. The immaturity and complexity of the technology is also slowing adoption, as is concern about the security of the public cloud, particularly with respect to companies' loss of control in the event of private litigation or inquiries from governmental agencies.

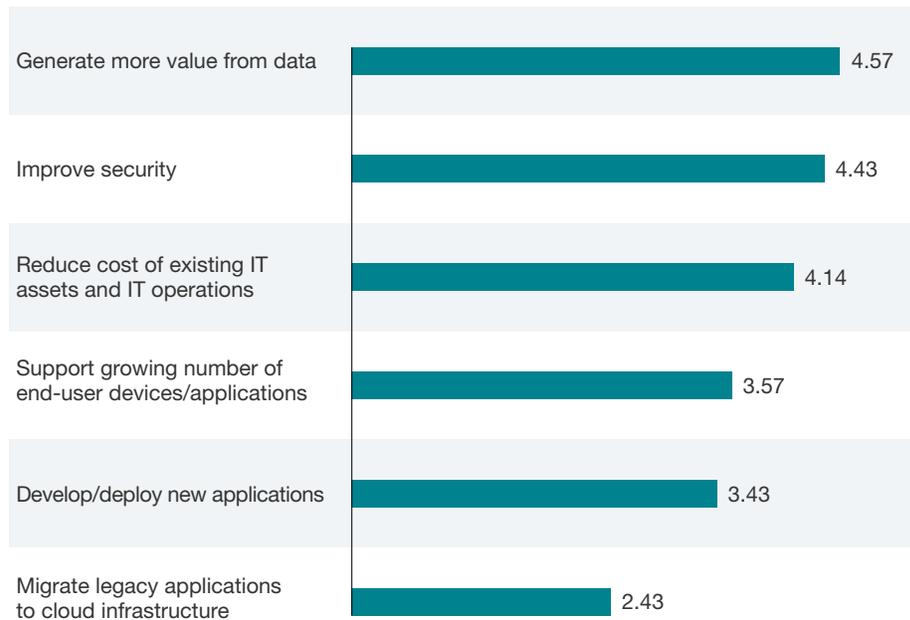
For instance, executives in highly regulated industries such as health care and banking worry that public-cloud providers are not always well equipped to meet those industries' unique regulatory requirements. As a result, they prefer to keep critical data within their own corporate firewalls. At the same time, executives recognize the potential security benefits of the public-cloud providers' scale and operational expertise. Given their focus and size, public-cloud providers are more likely to have the expertise to combat

security threats and prevent surreptitious breaches. The public cloud may gain greater acceptance if cybersecurity threats outpace the ability of smaller IT departments to combat them.

These considerations weigh on the objectives executives cited as priorities for their IT organization in the next one to three years (exhibit). Achieving all their goals—including generating more value from data, improving system security, and migrating legacy infrastructure to the cloud—requires “true program managers,” leaders who know how to work with internal and third-party sources to deliver an overall program rather than a discrete project. NGI involves deploying technological solutions across the full “stack,”

Exhibit Senior executives highlighted several focus areas for their companies’ IT organizations in coming years.

Priority objectives of IT organization over next 1–3 years,
scale: 1–5 (1 = low, 5 = high)



Source: 2013 McKinsey poll of 8 senior executives invited to Chief Infrastructure Technology Executive Roundtable

from the data center to hardware to middleware and through the application layer, and often entails fundamental changes to the enterprise's work flows and IT operating model. Make no mistake: IT infrastructure leaders are excited about the promises of NGI. But they're equally clear-eyed about the challenges. [□](#)

For more, download the full version of this article, "Next-generation IT infrastructure," on mckinsey.com.

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