REPORT

How Lufthansa Can Meet Application and Access Network Modernization Challenges

IDG Research survey shows how a global pandemic is creating new urgency around IT modernization and a search for tools that can help deploy, connect, and deliver modern applications.

The vast majority of companies are making progress in their IT modernization efforts. It's clear the current pandemic is creating a new sense of urgency to increase efficiency while improving application performance and the user experience.

Those are some of the top-level findings from a new IDG-NS1 Research survey aim ed at uncovering the drivers, level of progress, and obstacles in the quest for IT modernization.

Modernization here is defined as the transformation of IT plat - forms of all types, applications, governance and processes to achieve desired business outcomes. Amid the pandemic, the survey shows a majority of companies are accelerating almost all modernization initiatives, with mobility, remote data access, automation, and security leading the way.

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In terms of obstacles to modernization, survey respondents report the biggest ones are a talent and skills gap, competing priorities, legacy infrastructure, and budgets. The survey includes responses from 400 IT professionals (director or above) from companies with at least 2,500 employees in the US, UK and Germany.

"Building and managing a scalable and resilient application delivery infrastructure is more complex than ever because footprints increasingly heterogeneous and dynamic," said Kris Beevers, CEO of NS1, which commissioned the IDG Research survey. "But revenue is lost when the end user experience falters, so companies need to take a hard look at how they're dealing with application traffic management in order to be successful with modernization efforts."

A CHANGING IT LANDSCAPE

The challenge is even greater now that COVID-19 has essentially turned enterprise infrastructure inside out. Whereas previously companies built their networks to handle traffic that was largely contained within the walls of their buildings, now they're dealing with massive amounts of traffic flowing from work-at-home employees into the application-access network.

Customer expectations have also evolved: they expect a seamless, efficient, and fast experience when interacting with organizations. End users also demand "consumer-grade" experiences from apps and websites.

In order to serve these groups— from customers to employees to end users— it's imperative the applications deliver a quality experience, with no undue delays. That, in turn, creates challenges for IT in managing networks and applications efficiently while ensuring good performance.
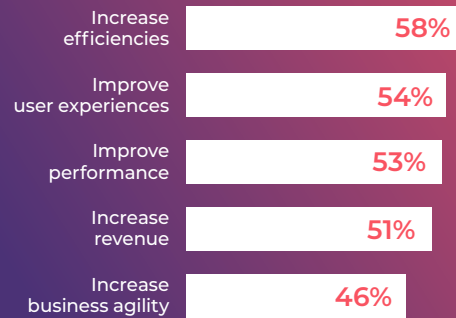
These new realities are clearly reflected in many of the top drivers for modernization initiatives cited by respondents to the IDG Research survey see Fig. 1).

THE MODERNIZATION IMPERATIVE

To be sure, IT modernization was already on the radar before anyone had heard of COVID-19, but now nearly all companies are on board.

Fig 1. Top drivers for modernization initiatives

Increase efficiencies	58%
Improve user experiences	54%
Improve performance	53%
Increase revenue	51%
Increase business agility	46%

Among survey respondents, more than 4 out of 5 (81%) have made at least some progress with modernization. Eight percent said they have achieved their initial objectives and are now optimizing. Another 28% report having made "significant" progress (more than 75% complete), 28% said they've made "moderate" progress (50% complete) and 17% have made "some" progress (25% complete). Fifteen percent are in the process of building a modernization plan or have one but haven't made progress on it yet. That leaves only 4% of respondents that have modernization on the radar but haven't started building a plan.

In terms of the pace of change, a majority of respondents report they're accelerating modernization efforts for nearly all applications (See Fig. 2).

Mobility initiatives are most urgent, as 70% said they're accelerating them over the next 12 months. Close behind is remote access to data and applications, cited by 68% of respondents.

In a nod to the desire to improve productivity, 65% of respondents said they're accelerating automation projects in the coming year.

Security continues to be a concern, cited by 61% of respondents overall. The urgency around security is somewhat

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less pronounced in the UK and Germany, where it was cited by 59% and 63%, respectively, vs. 75% in the US.

"It's safe to say the pandemic is fueling a sense of urgency around areas such as mobility, remote access and security," said Beevers. "We need to ensure all stakeholders, from employees to customers and users have the flexibility to enable them to connect to the business."

Other areas where respondents expect to accelerate the pace of projects in the next 12 months include IT resilience, public cloud deployment, scalability improvement, private cloud deployment (sixty-five percent of US respondents cited this vs. 44% in the UK and 54% Germany), deployment velocity, application delivery, and software-as-a-service (SaaS) usage.

Given all this urgency, 83% of respondents said they expect budgets for modernization efforts to increase over the next 3 years, while 11% said they will stay the same. Only 6% expect to see a modernization budget decrease. Given the fact that the survey was conducted in June 2020 ¬– well into the COVID-19 crisis and resulting economic uncertainty – the numbers clearly highlight the importance enterprises are placing on IT modernization efforts.

OBSTACLES TO MODERNIZATION

Even with a budget and a sense of urgency behind them, survey respondents face a number of obstacles in their IT modernization projects.

Respondents were asked to select up to five significant obstacles with respect to their IT modernization strategies. Two items topped the list, each selected by 37% of respondents: talent/skills gap and competing priorities. The skills gap was most pronounced in the US, selected by 45% of respondents, vs. 26% in the UK and 30% in Germany.

That may reflect the rapid growth in tech sector jobs in the US. Over the past decade, the US has seen an increase of 2.3 million tech sector jobs, up 23% from 9.8 million in 2010 to 12.1 million in 2019, according to research by tech association CompTIA: "This highlights the degree to which every industry sector across the economy embraced technology to further their business goals, often described as digital transformation."

Other top obstacles respondents cited reflect the challenge of working with aging networks and the outdated organizational structures that come with them. Those obstacles include "legacy networks" and "organizational inflexibility," both cited by 35% of respondents. "Technical and operational debt" was cited by 31% overall, although it was more of an obstacle in the US and Germany (37% and 32%, respectively) vs. the UK (19%). More than a quarter of respondents (26%) cited "siloed or misaligned organizational structures" as an obstacle.

Budgets and lack of executive support were also issues for about one-third of respondents, 33% and 31%, respectively.
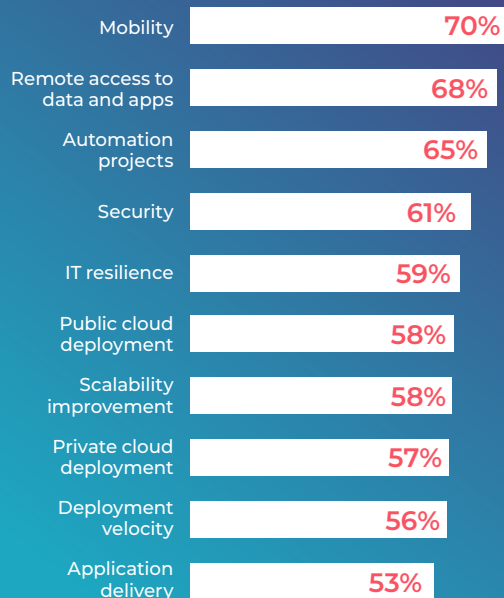
An open-ended question asked respondents for any other comments regarding the challenges of meeting application delivery requirements. Common themes included many of the issues cited above plus issues related to COVID-19, such as:

- "Due to Covid-19 all staff has had to work from home and some projects that have been planned have been delayed for years."
- "Due to Covid-19, we have had to increase our security."
- "We have plenty of additional challenges now with COVID-19."

Fig 2. Pandemic helps drive IT modernization imperatives

Top 10 projects expected to be accelerated in the next 12 months:

Project	%
Mobility	70%
Remote access to data and apps	68%
Automation projects	65%
Security	61%
IT resilience	59%
Public cloud deployment	58%
Scalability improvement	58%
Private cloud deployment	57%
Deployment velocity	56%
Application delivery	53%

Market
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Yet overcoming these obstacles is imperative, because 80% of respondents find it challenging to meet application delivery requirements with their existing infrastructure. More than a third (35%) say it's "very challenging."

ADDRESSING PERFORMANCE REQUIREMENTS

Nearly all companies are nonetheless adopting modern application stack solutions, many of which are aimed directly at addressing network and application performance requirements (See Fig. 3)

DevOps tools and continuous integration/continuous delivery (CI/CD) is another popular stack, cited by 94% of respondents, reflecting the desire for faster application development to meet business needs. Similarly, 90% were adopting containers and microservices while 93% were adopting automation, orchestration and API-driven management tools.

DDI, which involves the integration of the Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP) and IP Address Management (IPAM), is also gaining steam. Nearly half of respondents (45%) are currently using DDI and 48% plan to within 12 months.

Fig 3. Top network and application performance stack solutions being adopted

Network monitoring tools	96%
Public/private cloud, multi-cloud	94%
Intelligent traffic management	87%
Multi-CDN	85%

GETTING THERE FROM HERE

DDI is indeed important with respect to ensuring speedy, reliable network performance and application delivery.

"An effective DDI solution will help enterprises ensure good network and application performance across the hybrid and multi-cloud networks that are becoming more common today," said NS1's Beevers. "A DDI solution that's purpose-built for speed, reliability and scalability will allow you to optimize application delivery and end-user experience across any environment."

With a unified user interface and appropriate APIs, the DDI solution will work across public and private cloud, hybrid cloud, and on-premises environments. The DDI solution should also integrate with multiple DNS delivery networks for redundancy, to ensure increased resiliency and traffic steering capabilities – all managed from a single pane of glass.

It's also important that the DDI solution offer third-party API integrations with popular development and orchestration tools and platforms. That helps streamline operations by making it easier to automate and make changes. Automated traffic management and workload orchestration capabilities based on factors like geography, performance and usage are likewise important to enabling companies to optimize around criteria including latency, cost, utilization, and end-user experience.

NEXT STEPS

The IDG Research survey makes it clear that the vast majority of companies are engaged with IT modernization efforts aimed at improving mobility, remote application and data access, security, and more.

The global pandemic has only added fuel to the fire, prompting enterprises to accelerate their modernization efforts. They understand the stakes are high in terms of speed to market, realizing a competitive advantage, and even just surviving in whatever the post-COVID normal turns out to be.
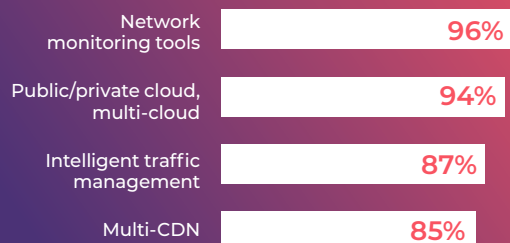
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To learn more about how NS1 solutions around DDI and DNS management can be part of the equation www.NS1.com.