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Four Best Practices to Accelerate Your Secure Network Transformation

IDC ANALYZE THE FUTURE

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Introduction

Business requirements for enterprises are getting increasingly complex in today's digital era. The corporate environment has evolved significantly, where in addition to branch office and remote site connectivity, enterprise networks are used to connect to a wide variety of cloud-based applications, a distributed network of datacenters, and an increasingly mobile workforce, as well as to power edge computing.

As organizations move to a software-defined architecture, they must avoid certain pitfalls, and carefully evaluate their secure network transformation partners.

This IDC InfoBrief explores the criticality of software-defined networking (SDN) to enterprise digital transformation (DX) and how organizations can get started on their secure network transformation journey.

Over **90%** of organizations worldwide are already progressing in their race to the future enterprise.

Only **35%** of enterprises worldwide have indicated that their networks are ready to reap the most of their 3rd Platform technology investments.

Source: IDC MaturityScape Benchmark: Future Enterprise Worldwide, 2020 and IDC Asia/Pacific Next-Gen Networks and Comms Survey 2019-2020

Traditional networks are under pressure to deliver

The enterprise network environment has become much more complex in the DX era. In addition to branch office and remote site connectivity, enterprise networks are also being used to access cloud-based applications, and to interconnect an increasingly mobile workforce.

As a result, traditional local area networks (LANs) and wide area networks (WANs) have difficulty rising up to the following challenges:

Central management of complex WAN environment

Lack of embedded central monitoring, control, and troubleshooting capabilities, resulting in the need to invest in additional 3rd party tools and solutions.

Ensuring a consistent user experience

Inefficient traffic management of a wide variety of cloud-based and software-as-a-service (SaaS) applications, resulting in an inferior user experience for stakeholders.

Reducing security vulnerabilities and providing user access management

Demands of a distributed and outdated enterprise network inject all sorts of vulnerabilities into a multivendor environment, making it difficult to secure and ensure compliance.

Ensuring network agility

Hardware-centric nature of traditional networks result in a static, less responsive network where setting up new sites, or implementing new protocols and rules, takes a long time.

Organizations must therefore rethink their fundamental network architectures and build one that is *secure*, *flexible*, and *adaptable* to the dynamic business environment. This means a hybrid network approach with a reliable underlay and a software-defined overlay such as software-defined WAN (SD-WAN).

Rethinking network architectures

To compete effectively in today's challenging environment, organizations are investing heavily in their network infrastructures in order to support and accelerate their digital journey with the following four goals in mind:

Top 4 CIO goals driving network investments

Organizations are leveraging software-defined capabilities and turning to SDN to kick-start their network transformation journey and achieve these goals.

SD-WAN builds on the principles of SDN to create a cost-effective, flexible, and adaptable network that is easy to manage and inherently secure.

SD-WAN brings the following high-level benefits to the enterprise:

Achieving internal efficiencies

- **Centralized control and visibility**

  A single pane of glass view and real-time monitoring to control the performance and behavior of the entire network including branch and remote sites.

- **Open programmable interface**

  Allows enterprise applications to directly interact with network resources through an API-based approach, resulting in efficient processes.

Security

- **Superior security**

  Business rules define which users, business groups, clients, and things can access the network and what they can do on it.

Reduce overall cost structure

- **Cost reduction**

  Embedded analytics can help enterprises understand how network resources are being used, allowing them to make informed decisions about transport methods to be used, resulting in significant cost savings.

Improve customer experience

- **Dynamic network management**

  Prioritizes network traffic through dynamic policies based on user and application profiles ensuring superior application performance and an enhanced user experience.

However, over 61% of organizations consider migration and operation of a software-defined ecosystem to be their biggest hurdles in SD-WAN adoption.

Source: IDC Asia/Pacific Next-Gen Networks and Comms Survey 2019-2020

Best practices to get started on your journey

SD-WAN endeavors to bring new flexibility into the networking environment by decoupling network logic and policies from the underlying switching hardware. Policies can be defined, changed, and modified in a centralized manner, as needed.

As organizations take a strategic approach to their secure network transformation, they must realize that it is not a straightforward process. Multiple service providers in the market, different solutions and deployment approaches, and confusing messaging by different vendors make it critical for organizations to make the right choices. Underpinning all these is the impact on the security landscape of the enterprise ICT environment which organizations must also address.

TAKING THE FIRST STEP IS OFTEN THE HARDEST

Below highlights the four best practices to keep in mind as you get started on your secure network transformation journey:

01

Understand your organization's DX road map — and how the network piece fits in.

02

Separate "signal" from noise.

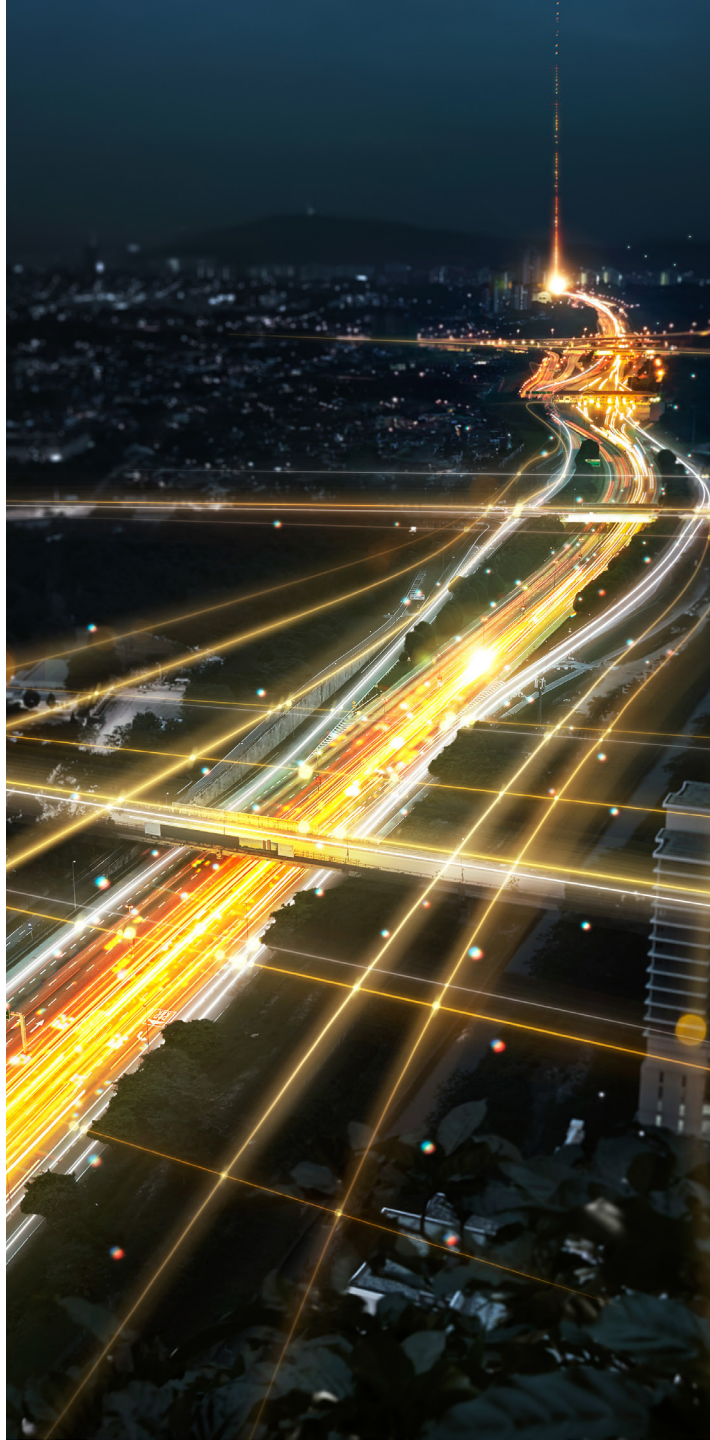
03

Choose the "right" migration and deployment strategy.

04

Evolve SD-WAN toward a fully secure and software-defined environment.

Address security concerns and considerations at every step



BEST PRACTICE

Understand your organization's DX road map

Map out **how the network piece fits in** with the organization's DX strategy as well as technology investment road map — in technologies such as cloud, big data/analytics, and security.

Measuring the progress of this journey is very critical. So, create a secure network transformation performance scorecard:

1

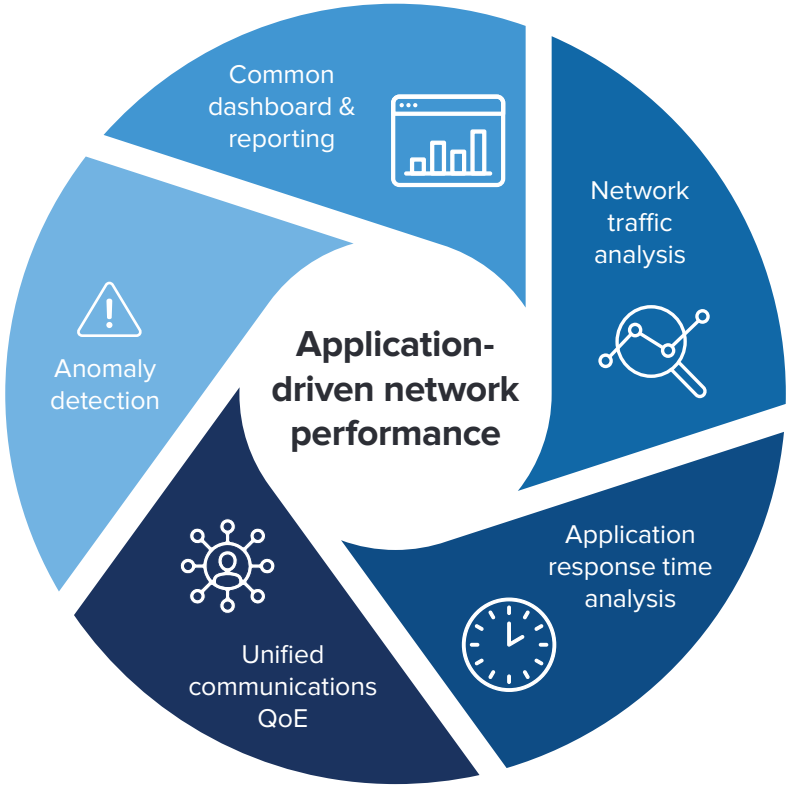
Set clear business objectives — short-term, mid-term, and long-term key performance indicators (KPIs) such as the number and list of key applications to be migrated to a cloud-based/SaaS model.

2

Map business objectives with basic network indicators such as deployment times, throughput and latency, application responsiveness, and security posture to create a performance matrix.

3

Measure and report on the state of network transformation regularly (weekly, monthly, quarterly).



of organizations shared that getting a buy-in from various lines of business (LOBs) and business leaders is not only good to have, but critical for the success of network transformation projects.

Source: IDC Asia/Pacific Next-Gen Networks and Comms Survey 2019-2020

BEST PRACTICE

Separate ‘signal’ from noise

Each SD-WAN solution provider in the market has a different approach to SD-WAN based on their product offerings and hence, the messaging of SD-WAN’s true capabilities can often be confusing. Organizations must carefully evaluate these SD-WAN solutions and understand the benefits and implications before committing to their network transformation journey.

Perception: Moving to SD-WAN means all private WAN connectivity — such as multiprotocol label switching (MPLS) — can be replaced with public internet connections

Broadband internet is getting cheaper and, at the same time, faster especially with fiber and 4G, with 5G just looming on the horizon. However, it is less reliable as compared with MPLS and organizations could be looking at a degraded performance, capacity challenges, and intermittent dropouts should there be complications on the network end.

SD-WAN is an overlay technology that does not provide organizations with complete traffic engineering capabilities. Rather, it only provides the intelligence to decide the best available network path the data packet needs to take.

Perception: Big savings are guaranteed

A well-designed SD-WAN network allows organizations to diversify their network links to increase availability and, more importantly, to avoid vendor or service provider lock-in.

Over 60% of organizations expect cost savings in excess of 10% with the implementation of SD-WAN. Moving from MPLS to public internet will lead to savings. However, network spending usually remains within the same range as organizations spend the savings on other areas, such as security, network bandwidth, data analytics, and mobility to accelerate their DX initiatives. Organizations should therefore look beyond cost when evaluating the move to SD-WAN.

Source: IDC Asia/Pacific Next-Gen Networks and Comms Survey 2019-2020

BEST PRACTICE

Choose the 'right' migration and deployment strategy

SD-WAN continues to gather strong momentum, with a number of start-ups, established technology vendors, communications service providers (CSPs), and managed service providers (MSPs) flooding the market with multiple flavors of SD-WAN.

DIY

Organization manages overlay and underlay themselves.

Managed SD-WAN vendors with leased underlay

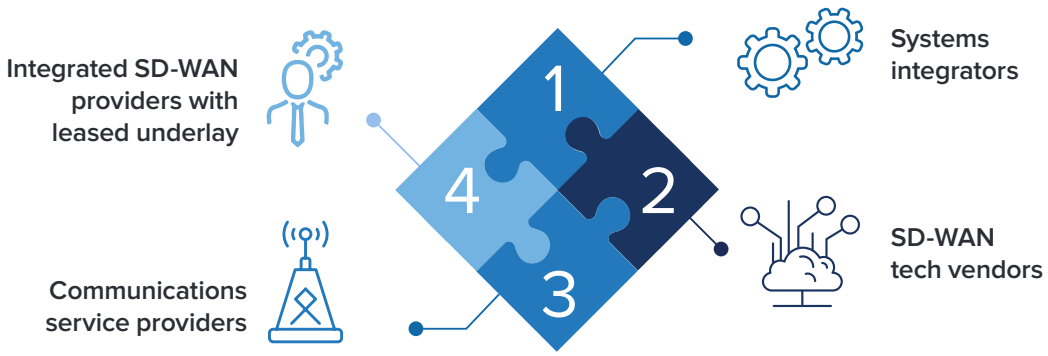
MSP manages both the overlay and the underlay, but does not own the network.

Managed SD-WAN from a telecom CSP

CSP manages both the overlay and the underlay, and owns the network as well.

Managed SD-WAN from SIs

Systems integrator (SI) only helps with underlay and overlay management, but organizations still need to contract with telcos for networks (underlay).



Migration to a software-defined environment can often be a big hurdle.

Chart out a detailed migration plan along with a mitigation strategy, considering all the risks to business continuity.

Each of the above approaches has its own benefits and pitfalls. While a DIY approach is usually more cost effective, a managed SD-WAN solution from a CSP allows organizations to manage the complicated migration to software-defined environment and ongoing operations more efficiently.

51% of organizations highlighted that they would prefer to work with telecom service providers for their SD-WAN implementations — largely due to CSPs' ownership of the underlay networks as well as for their understanding of how the SD-WAN overlay integrates with the underlying networks.

Hence organizations must carefully select their partners on their software-defined journey.

Source: IDC Asia/Pacific Next-Gen Networks and Comms Survey 2019-2020

BEST PRACTICE

Evolve SD-WAN toward a fully secure and software-defined environment

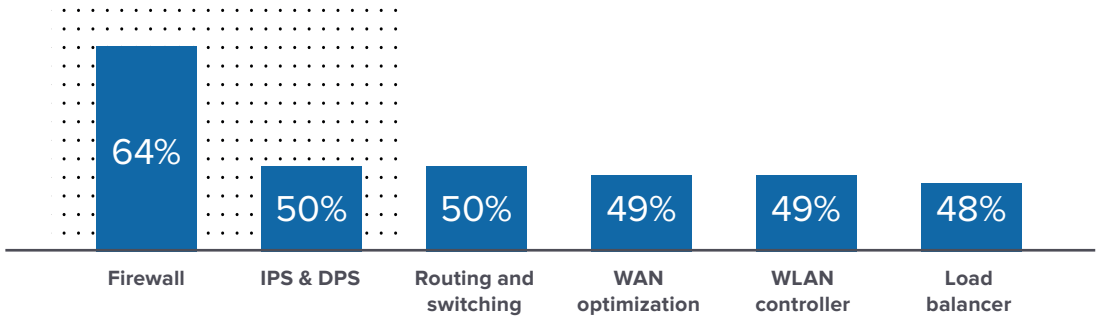
SD-WAN should act as a conduit and represent the first step toward a journey of a fully software-defined ICT ecosystem based on network function virtualization (NFV) architecture with x86-based vendor CPE (vCPE) to provide enterprises the foundation for a fully virtualized edge and capitalize on a set of commercially available virtual network functions (VNFs).

Virtual network services journey often begins with security

Security is high on the enterprise agenda in terms of virtual network services, with 64% of organizations highlighting that they would prefer to virtualize their network firewall services, followed by 50% preferring to virtualize their intrusion prevention and intrusion detection system.

Organizations have the option to either have these virtual network services hosted on-premises, or hosted on the cloud with their service providers.

Which of the following appliances/network functions would you like to consider for virtualization?



Hence, enterprises should consider communications service providers with plans to provide a programmable platform that integrates multivendor VNFs and APIs and provide convergence of network and security services.

Source: IDC Asia/Pacific Next-Gen Networks and Comms Survey 2019-2020

MESSAGE FROM THE SPONSOR

TATA COMMUNICATIONS SECURE NETWORK TRANSFORMATION (IZO™ WAN)

TATA COMMUNICATIONS

MANAGED SD-WAN SERVICES (IZO™ SDWAN) Fully Managed/ Co-Managed

ENGAGEMENT

- Network audit & assessment
- Design & technology consulting
- Virtual or on-site POCs and demos
- Global supplier relationship & procurement
- Technical design architects & domain expertise
- Dedicated ITIL certified project manager
- Transition planning
- Partner engagement & expertise
- Unified SLAs, contracting & relationship management

DELIVERY

- Project kick-off on-site
- Risk assessment and mitigation planning
- Project governance and updates
- Service transition & phased deployment
- Equipment/license & last mile supplier management
- Turnkey circuit provisioning/CPE turn-up
- Software configuration changes & updates
- Customer acceptance testing

LIFECYCLE

- 24/7 global helpdesk (L1 & L2)
- L3 supports expert troubleshooting (core/edge/cloud)
- Self-service portal & APIs
- Proactive monitoring and reporting
- Performance management
- Change management/MACDs
- In-region support & contract management
- On-site hardware maintenance, upgrades & optimization
- Training & documentation

NETWORK SECURITY

CLOUD-BASED SECURITY

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IN-BUILD ON-PREMISES

Next gen firewall | Stateful firewall | UTM

UNDERLAY NETWORK

IZO™ Hybrid WAN | Technology alliances | Engineering | 24/7 operations

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OVERLAY TECHNOLOGY

Hybrid WAN Prime | SD-WAN technology vendors | IZO™ AppWAN

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