



# Software-Defined Access

## Enabling digital transformation

Transforming network access  
management and security

## The bigger picture – the network has fundamentally changed

The network is the foundation of any digital transformation - which is fundamentally changing the way organisations do business today. The power of the cloud, applications and proliferation of devices are enablers for offering differentiated services to customers and a better experience for the workforce. But, are today's networks meeting the needs of the organisation's digital agenda?

# To understand why IT needs to change their approach to the network we need to look at what has happened.

Networks were set up to allow users to talk to users. Over time applications and services such as Voice-over-IP (VOIP), print, perimeter security, Bring-your-own-device (BYOD), The Internet-of-Things (IOT) have been added, and there has been an explosion of cloud computing both off and on-premises. All of which have caused operational complexity and the emergence of new vulnerabilities which require new visibility and diagnosis tools to remediate and troubleshoot issues faster.

The result? Network operations can no longer keep up with the needs of the business. Networks are too complex, too manual in nature, have fragmented security and ultimately there is limited visibility as to what is happening.

Embracing automation and intent based systems allows IT to work on strategic things and business outcomes instead of having to perform mundane, manual tasks.

### The cost of doing business in a digital world\*

- 95% of network changes performed manually
- 70% policy violation due to human error
- 75% of OpEx spent on changes and troubleshooting

# Automation and Intent-based networking

In 2017, Gartner suggested that Intent-based networking (the ability to define what you want the network to do and have an automated network management platform create the desired state and enforce policies) essential in networking to improve agility and availability - which are key as organisations transition to digital business.

Focus and Cisco are ahead of the game. Cisco Software-Defined Access is the industry's first intent-based networking solution for the Enterprise LAN and is part of Cisco's Digital Network Architecture – an open, extensible and software-driven architecture built to enable digitisation.

# Cisco Digital Network Architecture (Cisco DNA)

Cisco's DNA Centre is a centralised management platform that lets IT teams put intent-based operations into action and encompasses all aspects of the network life cycle including design, provisioning, policy and assurance. Hardware and software life cycles are managed to keep the routers, switches, access points and other infrastructure up to date.

## DNA focuses on:

- 1. Security.** When users, devices, applications and things are added to the network the proper policy is assigned to those devices and users allowing for seamless mobility throughout the campus with access only to the defined applications.
- 2. Automation.** Policy need to be able to be designed, provisioned and assigned in a moment's notice - the digital transformation era requires us to be agile - to be able to push this policy, push this intent down the network quickly.
- 3. Analytics.** A singular interface for IT to interact with to see what is happening in the network at all times. Today Cisco can provide visibility to ensure that user experience is consistent, but tomorrow it will be able to do predict remediation to determine what needs fixing without human intervention.

# Cisco's Software-Defined Access (SD-Access)

SD-Access represents a fundamental shift in how the network is built, managed and accessed. It provides policy-based automation across the network fabric from the edge to the cloud, with secure segmentation for users and things.

Its single fabric weaves together wired, wireless or hybrid networks. Users and devices can be onboarded easily – eliminating the necessity for time-consuming, manual operations which can increase the risk of error - everything is automated, and a consistent policy follows the user whenever they go. The ability to automate this process is critical to determine when and where an endpoint is attached to the network. Furthermore, SD-Access acts as a sensor on the network to provide IT with the deep visibility and insight they need, quickly.

# How Cisco SD-Access changes how IT manage the network

The following capabilities offer significant benefits for IT – not least giving back time to concentrate on business outcomes rather than operations:

- 1. End to end segmentation** allows corporate devices, facilities/IOT, and guest user devices to be kept separate and secure while on the same network infrastructure
- 2. Single point of network automation, orchestration and management of network functions**
- 3. Single network fabric** provides assurance visibility that delivers proactive operations and predicts performance through machine learning
- 4. Secure, policy- based automation** for access, security, application quality, and monitoring, across all network domains. One policy for LAN, wireless LAN and WAN
- 5. Complete network visibility**, and enable flexible Layer 2 and 3 services on a wired, wireless, and WAN network that is managed as a single entity
- 6. Fast and easy service enablement** through controller-based abstraction and open APIs, with fabric-aware security across a services eco-system
- 7. Reduced networking provisioning time** whether that's to get a branch office running quickly, or to roll out services and applications faster
- 8. Improved issue resolution** via deep insights into user behaviour, application performance, and threats
- 9. Fewer security breaches** as the network acts as a sensor and enforcer

*“Cisco showed excellent design automation using DNA Center workflows and a hierarchical deployment model, which truly turns business intent into the automated network configuration”*

Miercom Oct 2018

# How Focus can help

As one of Cisco's leading partners in the UK, Focus are experienced in designing, delivering and supporting enterprise networks on a global scale. Contact us and we can show you how Cisco's Software-defined networking

solutions can help enable your digital transformation, differentiate you from your competitors and deliver an exceptional experience for both your customers and employees.

**Call us today on +44 (0) 1273 964 440 to arrange a hands-on, technical lab session on Cisco's SDN platform.**

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Sources:

1. Mckinsey study conduction for Cisco in 2016
2. \*Cost of doing business in a digital world – Cisco
3. Miercom - Enterprise Campus Architecture Comparative Assessment report Oct 2018



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