Networking Academy Day

DigitalPakt jetzt!

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EN SE / TSA
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Cisco Intent-Based Networking
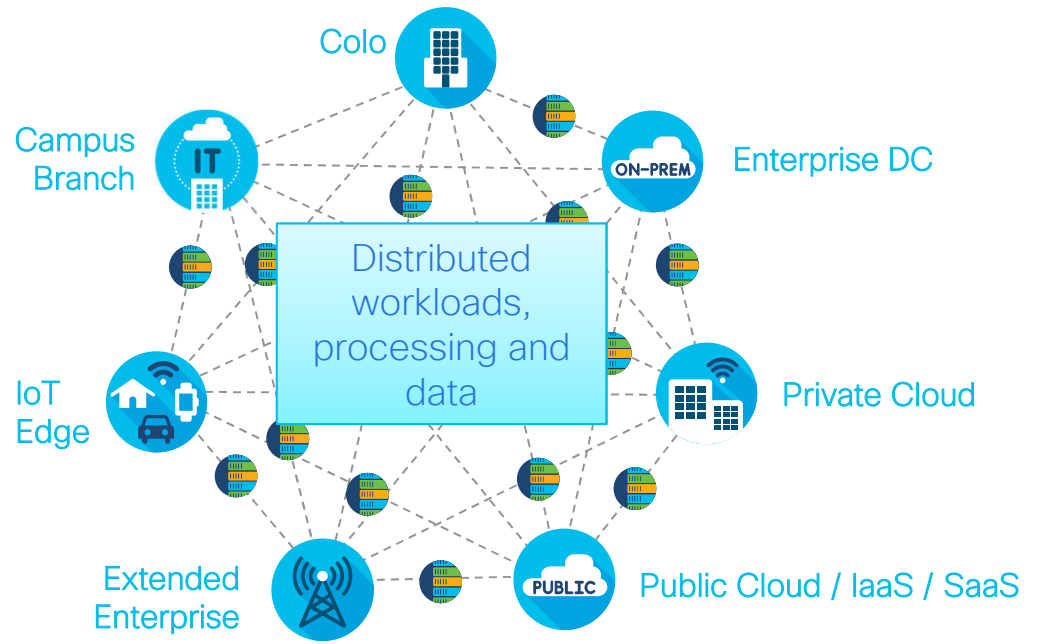
Vision & Strategy

New world network requirements
Increased application distribution, device scale and threats

Mobility
66%
Mobile device traffic will be 66% of total IP traffic by 2020[1]

Cloud
93%
93% of organizations will use multiple clouds by 2019[4]

IoT
26B
26 billion networked devices and connections will exist by 2020[2]

Security
100
100 days Industry average to detect a common threats[3]

Rapidly increasing users and things

Colo

Campus Branch

Enterprise DC

ON-PREM

IT

Distributed workloads, processing and data

IoT Edge

Private Cloud

Extended Enterprise

PUBLIC

Public Cloud / IaaS / SaaS

No clear perimeters; increased risk

2017 Cisco Security report
Cisco Complete VNI Forecast
Cisco 2016 Mid-Year Cybersecurity Report
Cisco Global Cloud Index Whitepaper

```
Building configuration...

Current configuration : 130873 bytes
!
! Last configuration change at 09:35:14 Bahrain Wed Oct 17 2018
by root
! NVRAM config last updated at 11:29:03 Bahrain Wed Oct 17 2018
by root
!
version 16.9
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service call-home
no platform punt-keepalive disable-kernel-core
!
hostname C9500-Core
!
!
vrf definition Mgmt-vrf
 !
 address-family ipv4
 exit-address-family
 !
 address-family ipv6
 exit-address-family
!
enable secret 5 <removed>
enable password <removed>
```
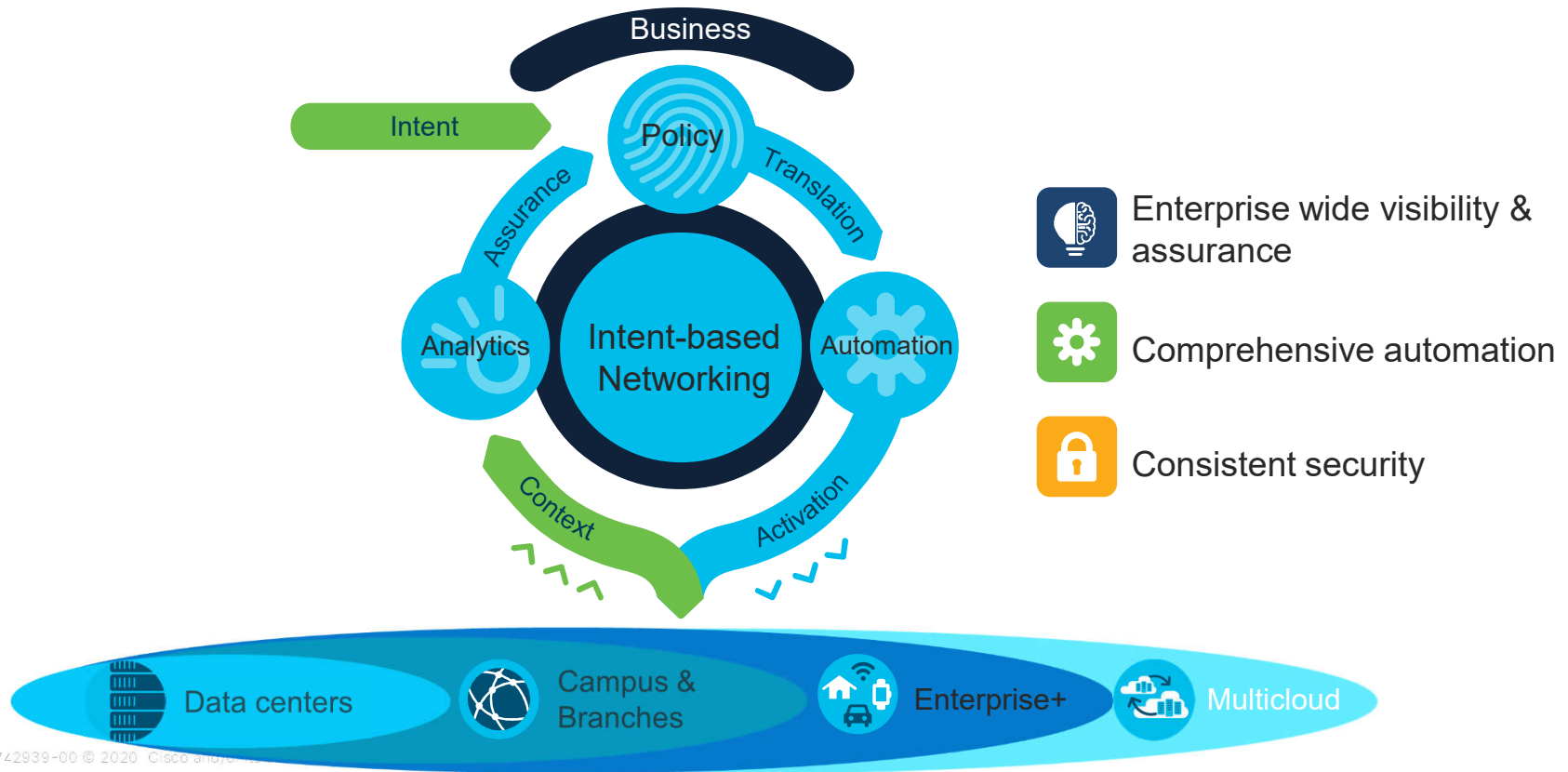
IT architecture must be reinvented for the realities of this next-generation digital world
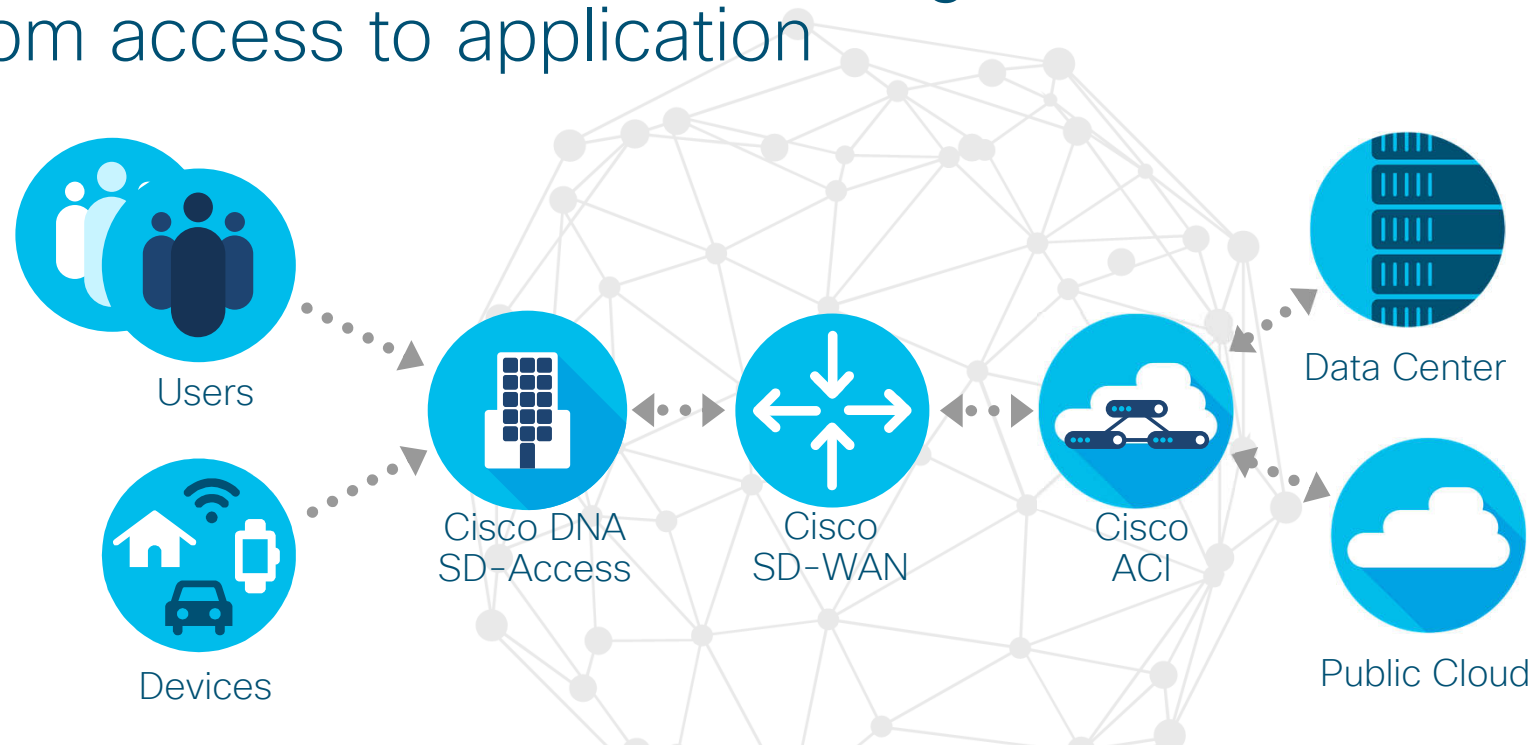
It must span across the new and emerging network domains, integrating them in new ways

SECURITY

SERVICE PROVIDERS
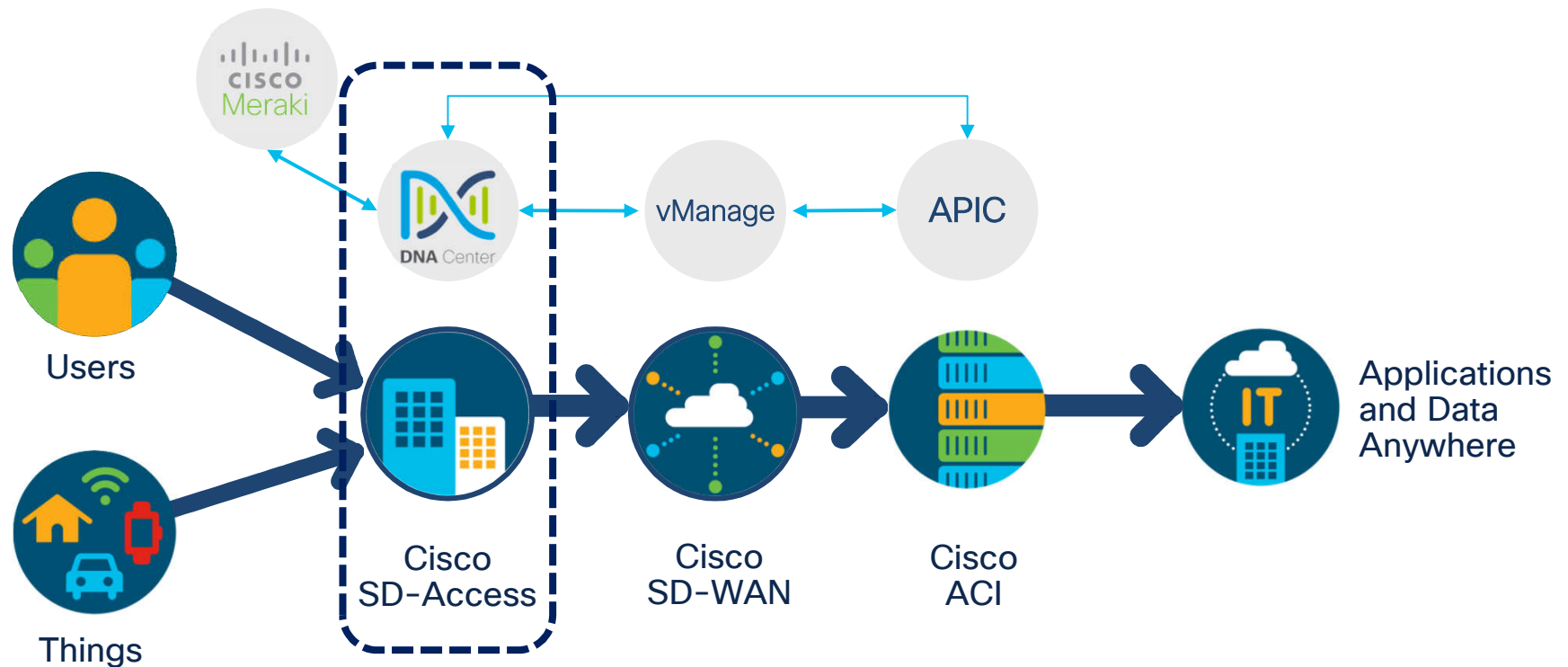
CLOUD PROVIDERS

DATA CENTER

IoT & OT

BRANCH

CAMPUS / ACCESS

Intent-Based Networking Model

Business

Intent

Policy

Translation

Assurance

Analytics

Intent-based Networking

Automation

Context

Activation

- Enterprise wide visibility & assurance
- Comprehensive automation
- Consistent security

Data centers

Campus & Branches

Enterprise+

Multicloud

Cisco Intent-based networking solutions from access to application

Users

Devices

Cisco DNA SD-Access

Cisco SD-WAN

Cisco ACI

Data Center

Public Cloud

Delivering intent-based networking across all networking domains

Building Cross-Domain Intent-Based Networking

Users

Things

Cisco SD-Access

Cisco SD-WAN

Cisco ACI

Applications and Data Anywhere

CISCO Meraki

DNA Center

vManage

APIC

ML/AI Driven Analytics | Cloud Delivered Software | More Security Integration

Introducing SD-Access for Distributed Campus
Enhanced resiliency and scale for large deployments

Site 1

Site 2

Site 3
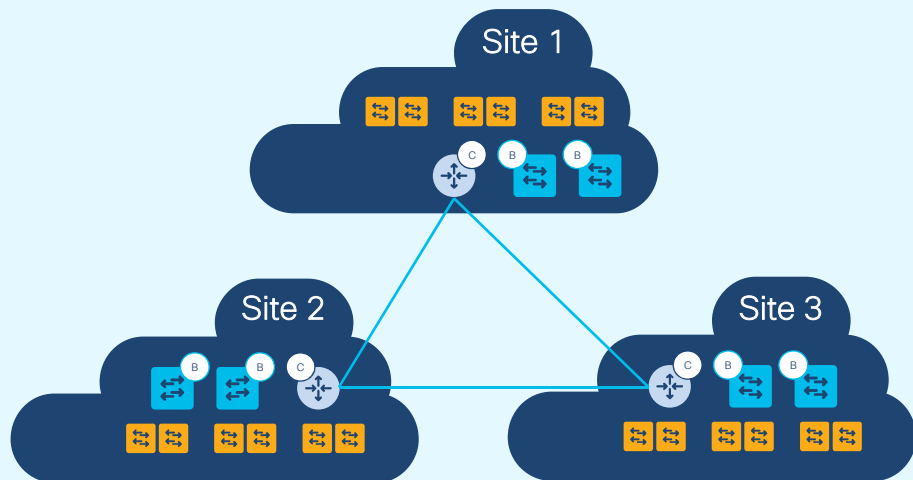
Extend SD-Access benefits campuswide

- End-to-end policy and segmentation
- Enhanced resiliency and local isolation
- Direct Internet access per site
- Automated intersite connectivity
- Scalable to 100+ sites
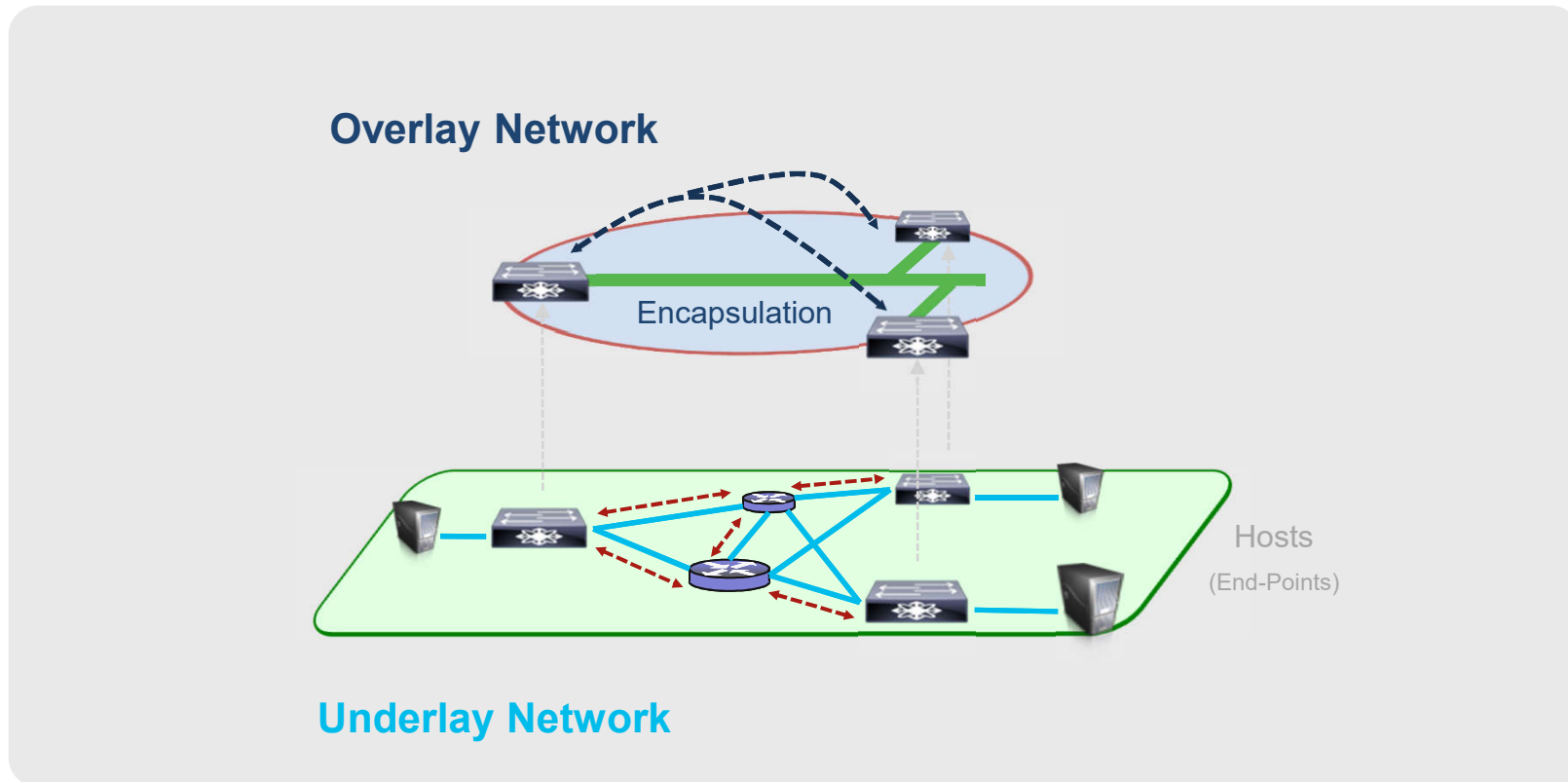- Flexible: 50 to 100,000 users per site

Automation and Assurance managed through Cisco DNA Center.

Cisco Software-Defined Access

Introduction and Overview

SD-Access Fabric – The Fabric Concept

Overlay Network

Encapsulation

Hosts

(End-Points)

Underlay Network

Design

Provision

DNA Center

Policy

Assurance

MacBook Air

Cisco **ISE**
Identity Services Engine

DNA Controller
Physical Server Appliance

Cisco **NDP**
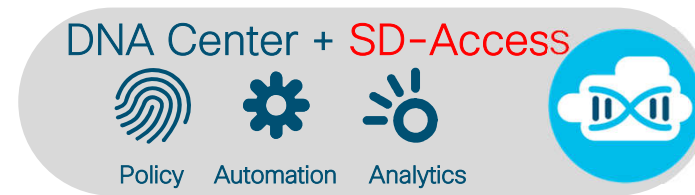Network Data Platform

Cisco **Router**
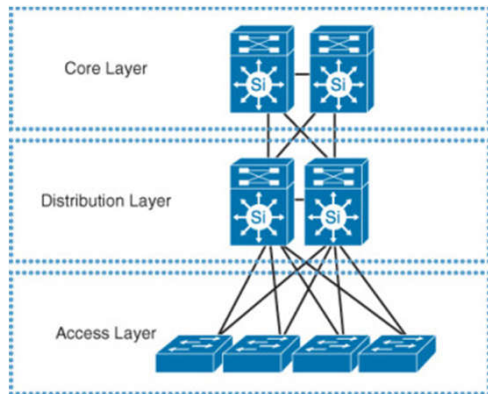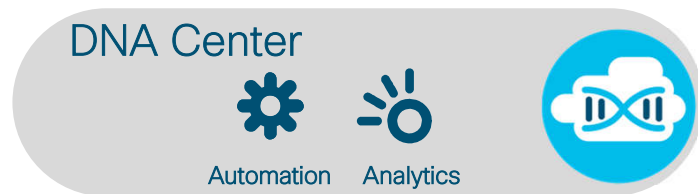
Cisco **Switch**

Cisco **Wireless**

The **Fabric**
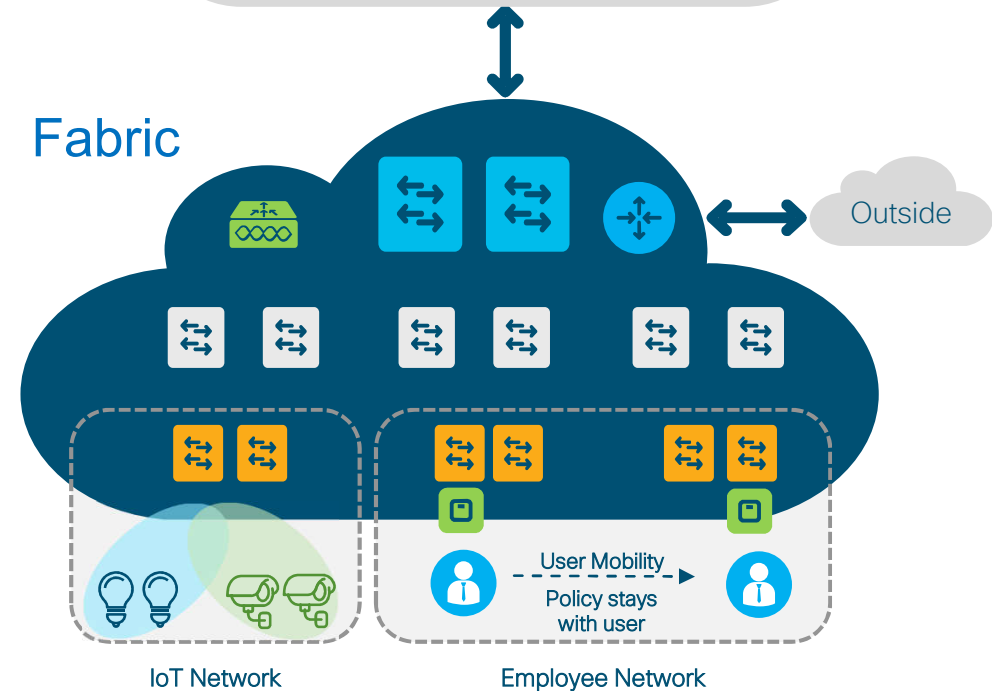*A collection of network devices under the administrative control of DNA Center*

You decide what DNA-Center will do for you

Classic

DNA Center

Automation Analytics

Core Layer

Distribution Layer

Access Layer

DNA Center + SD-Access

Policy Automation Analytics

Fabric

Outside

User Mobility
Policy stays
with user

IoT Network

Employee Network

Segmentation with DNA-Center and SD-Access

Applications/Outside

Core

Distribution

Access

IoT Devices

Virtual Network - VN

Scalable Groups - SGs

Contracts and Policy
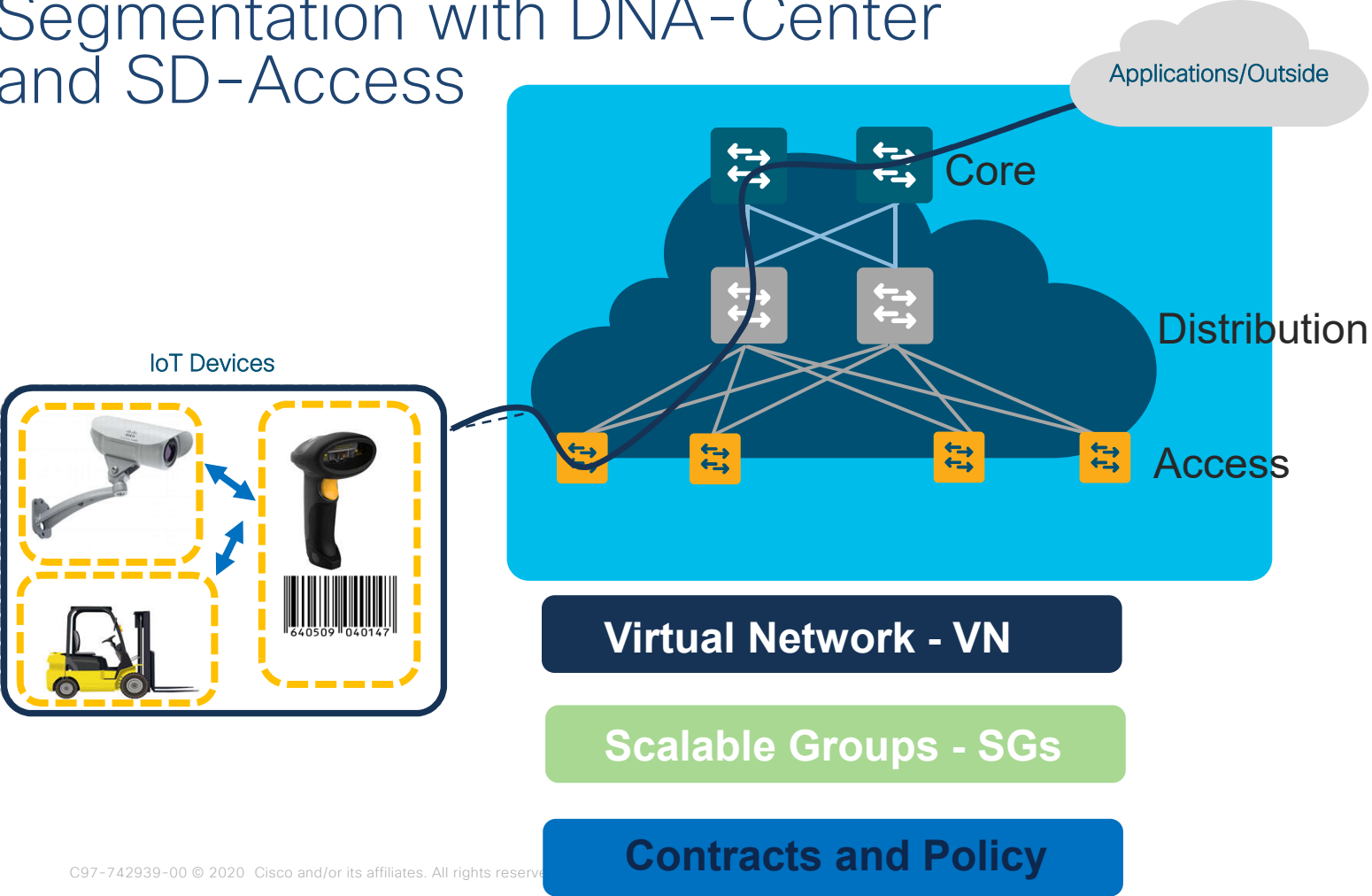
Cisco Catalyst for Education

Enterprise grade sized for small deployments

Catalyst for Every Port

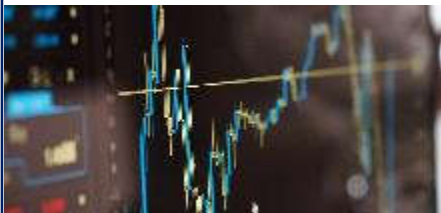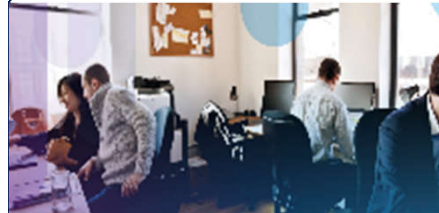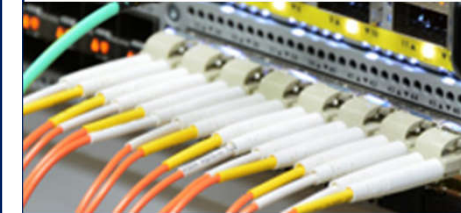| IOT	RESILIENT	SECURE	MOBILITY

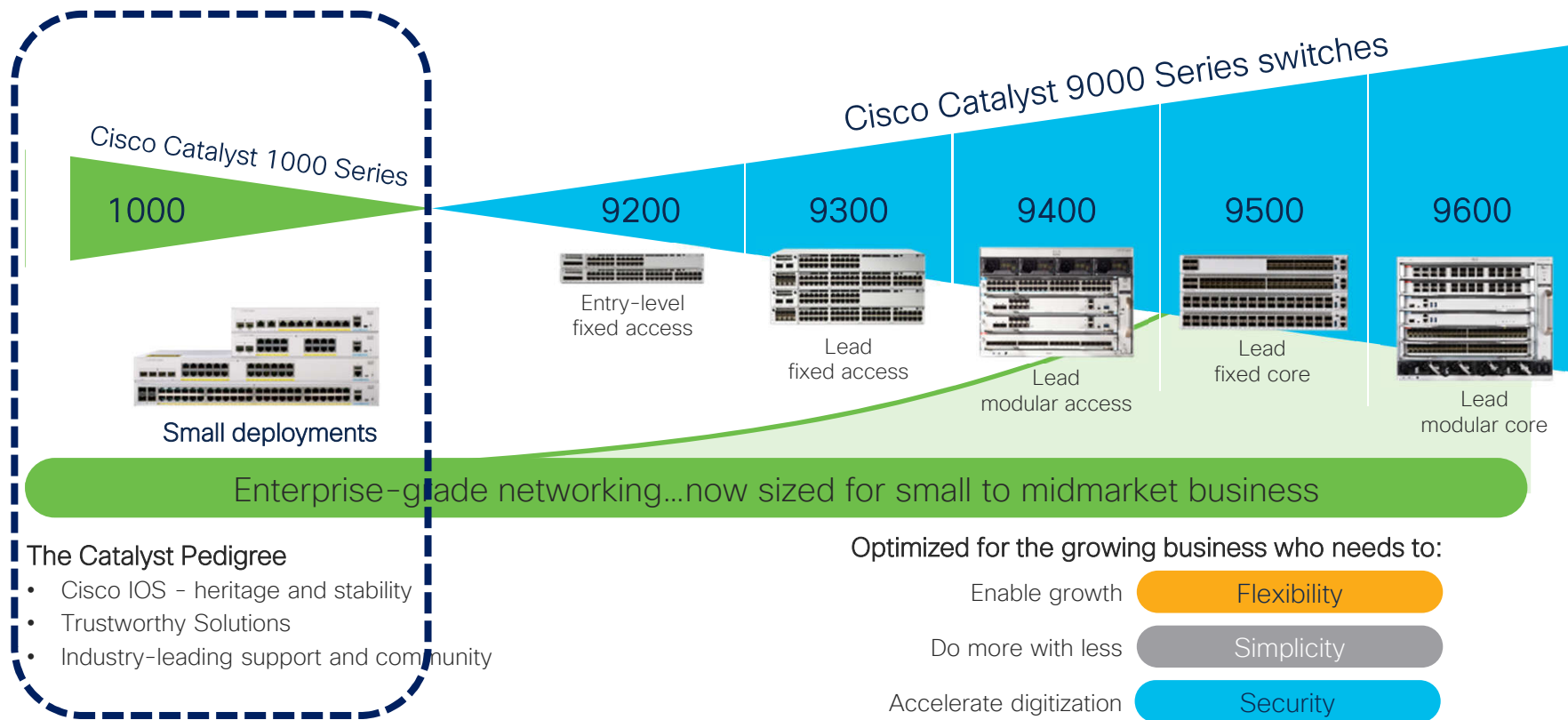| MULTICAST	MEDIA	BRANCH	FTTH/FTTD

PROGRAMABILITY

VISIBILITY & ASSURANCE

ONE PLATFORM MANY ARCHITECTURES

Expanding the Cisco Catalyst switching

Cisco Catalyst 9000 Series switches

Cisco Catalyst 1000 Series

| 1000 | 9200 | 9300 | 9400 | 9500 | 9600 |

Entry-level
fixed access

Lead
fixed access

Lead
modular access

Lead
fixed core

Lead
modular core

Small deployments

Enterprise-grade networking…now sized for small to midmarket business

The Catalyst Pedigree
- Cisco IOS – heritage and stability
- Trustworthy Solutions
- Industry-leading support and community

Optimized for the growing business who needs to:

Enable growth	Flexibility
Do more with less	Simplicity
Accelerate digitization	Security

Cisco Catalyst Switching Portfolio

Refreshed from Access to Core

1G *Fiber*

10G *mGig*

Catalyst
9600 Series

9300-H *UPOE+*

9300 *-UL*

9300L *MGIG*

Catalyst
9500 Series

9200 32VN

9200 mGig

Catalyst
9200 Series

Catalyst
9300 Series

Catalyst
9400 Series

Catalyst
9000
Switching
Platform

Catalyst
2960-X/XR

Catalyst
3650/3850

Catalyst
4500-E Series

Catalyst
3850-XS/4500-X

Catalyst
6840-X/6880-X

Catalyst
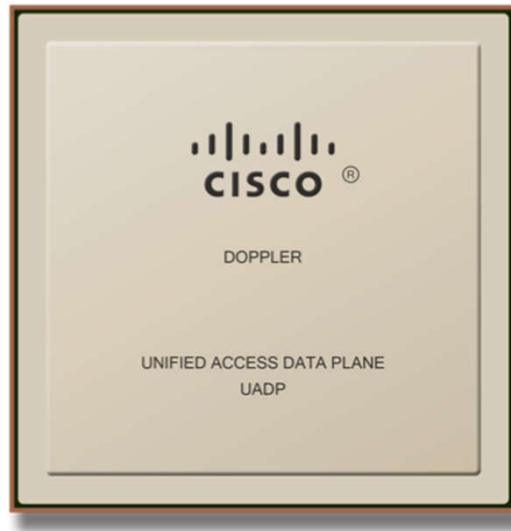6500-E/6807-XL

Access Switching

Core Switching

Cisco Catalyst 9000 Family

Introduction and Overview

UADP – Next Generation of ASIC Innovation

Up to 20B Transistors

Investment Protection
Flexible Pipeline

Universal Deployments
Adaptable Tables

Enhanced Scale/Buffering
Multicore resource share

384K Flex Counters

Shared Lookup

Up to 1.6T Bandwidth

Up to 2X to 4X Forwarding + TCAM

Embedded Microprocessors

Up to 36MB Packet Buffer

Up to 64K x2 Netflow Records

Flexible & Programmable ASIC – Adapts to the New Technologies

Catalyst 9K Family - x86 CPU

X86 based architecture helps with hosting containers and apps that are designed for x86 systems

x86 opens up the doors for IOT & Cloud Apps

Puppet/Chef/etc.