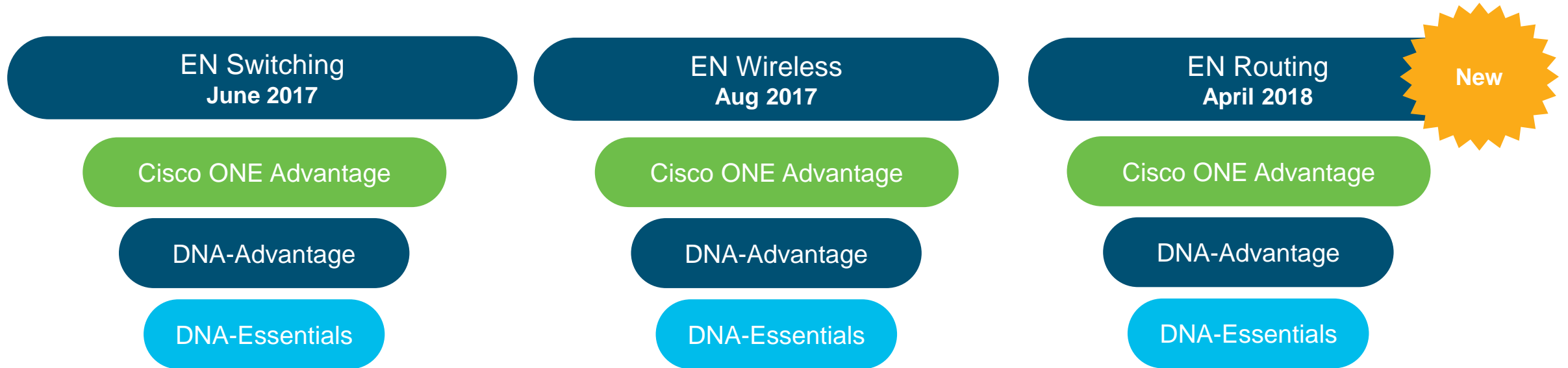# Licenses & Networking for everybody: DNA

René Andersen
Cisco DK
June 8, 2018

Driving DNA subscriptions across EN
DNA subscriptions available across entire EN portfolio by end of Q3'18

EN Switching **June 2017**	EN Wireless **Aug 2017**	EN Routing **April 2018**	**New**
Cisco ONE Advantage	Cisco ONE Advantage	Cisco ONE Advantage	
DNA-Advantage	DNA-Advantage	DNA-Advantage	
DNA-Essentials	DNA-Essentials	DNA-Essentials	

Building DNA adoption momentum across EN

Introducing New Software Subscription Licensing

Cisco ONE Suites or Ala Carte Model

ESSENTIALS
Layer 2, Routed Access, Base Automation and Monitoring

ADVANTAGE
Full L3, Segmentation, Software Defined Access, ETA & Assurance

Available for Current Generation Catalyst 3K, 4K, 6K and Next Generation Catalyst 9K Series

Ongoing Innovation

License Portability

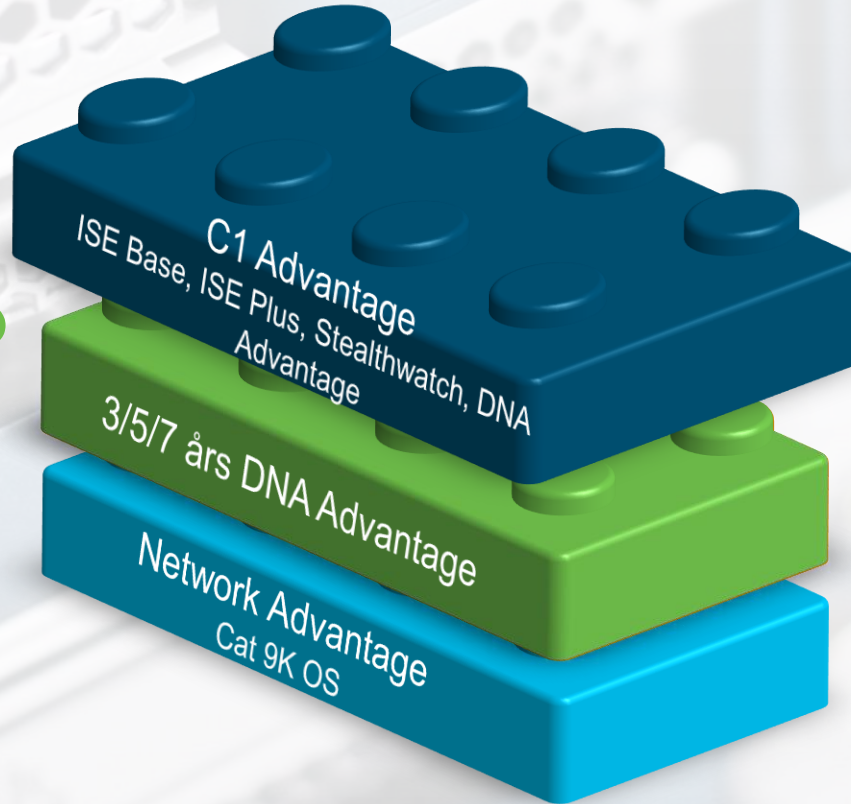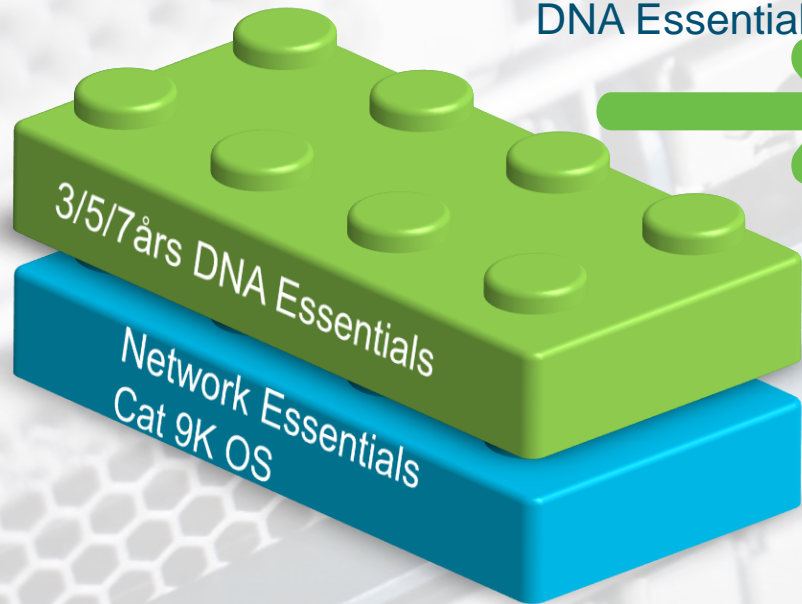Software Support Included

OpEx Preference

Lower Entry Costs

Catalyst 9K Licensing Ties

Software Suites for Business Outcomes

DNA Advantage includes DNA Essentials

3/5/7års DNA Essentials

Network Essentials
Cat 9K OS

C1 Advantage
ISE Base, ISE Plus, Stealthwatch, DNA Advantage

3/5/7 års DNA Advantage

Network Advantage
Cat 9K OS

Catalyst 9K - Advantage vs. Essentials

C9300, C9400, C9500

Advantage	Essentials

Advantage

DNA Advantage (Inclusive of DNA Essentials)   `3,5,7 Year Terms`

Advanced Automation
- SD-Access
- Application Policy
- Encrypted Traffic Analytics
- DNA Service for Bonjour
- Third-party App Hosting

Assurance & Analytics
- Global Insights, Trends,
- Compliance, Custom Reports
- Switch 360 & Wired Client 360
- SD-Access and Switch Insights
- Application Health, Application 360, Performance (Loss, Latency, Jitter)

Element Management
- Patch Lifecycle Management

Telemetry & Visibility
- ERSPAN
- AVC (NBAR2)
- Wireshark

Network Advantage (Inclusive of Network Essentials)   `Perpetual`

Enhanced Security Controls
MACSEC-256

IoT & Mobility
CoAP, AVB, PTP

Full Routing Functionality
BGP, HSRP, OSPF, ISIS, GLBP

Flexible Network Segmentation
VRF, VXLAN, LISP, SGT, MPLS

High Availability & Resiliency
NSF, GIR, Stackwise Virtual*, ISSU/eFSU, Patching (CLI)

Optimize Bandwidth Utilization with Multicast
MSDP, mVPN, AutoRP, PIM-BIDIR

Essentials

DNA Essentials   `3,5,7 Year Terms`

Basic Automation
- PnP Application
- LAN Automation
- Embedded Event Manager

Basic Assurance
- Health Dashboards – Network, Client, Application
- Basic Switch & Wired Client Health Monitoring

Element Management
- Software Image Management
- Discovery, Inventory, Topology

Telemetry
- Full Flexible NetFlow

Network Essentials   `Perpetual`

Essential Switch Capabilities
Layer 2,
Routed Access(RIP, EIGRP Stub, OSPF (1000 routes)),
PBR, PIM Stub Multicast (1000 routes)
PVLAN, VRRP, PBR, CDP, QoS,
FHS, 802.1x, Macsec-128, CoPP, SXP,
IP SLA Responder
SSO

DevOps Integration
- Netconf, Restconf, gRPC
- Yang Data Models
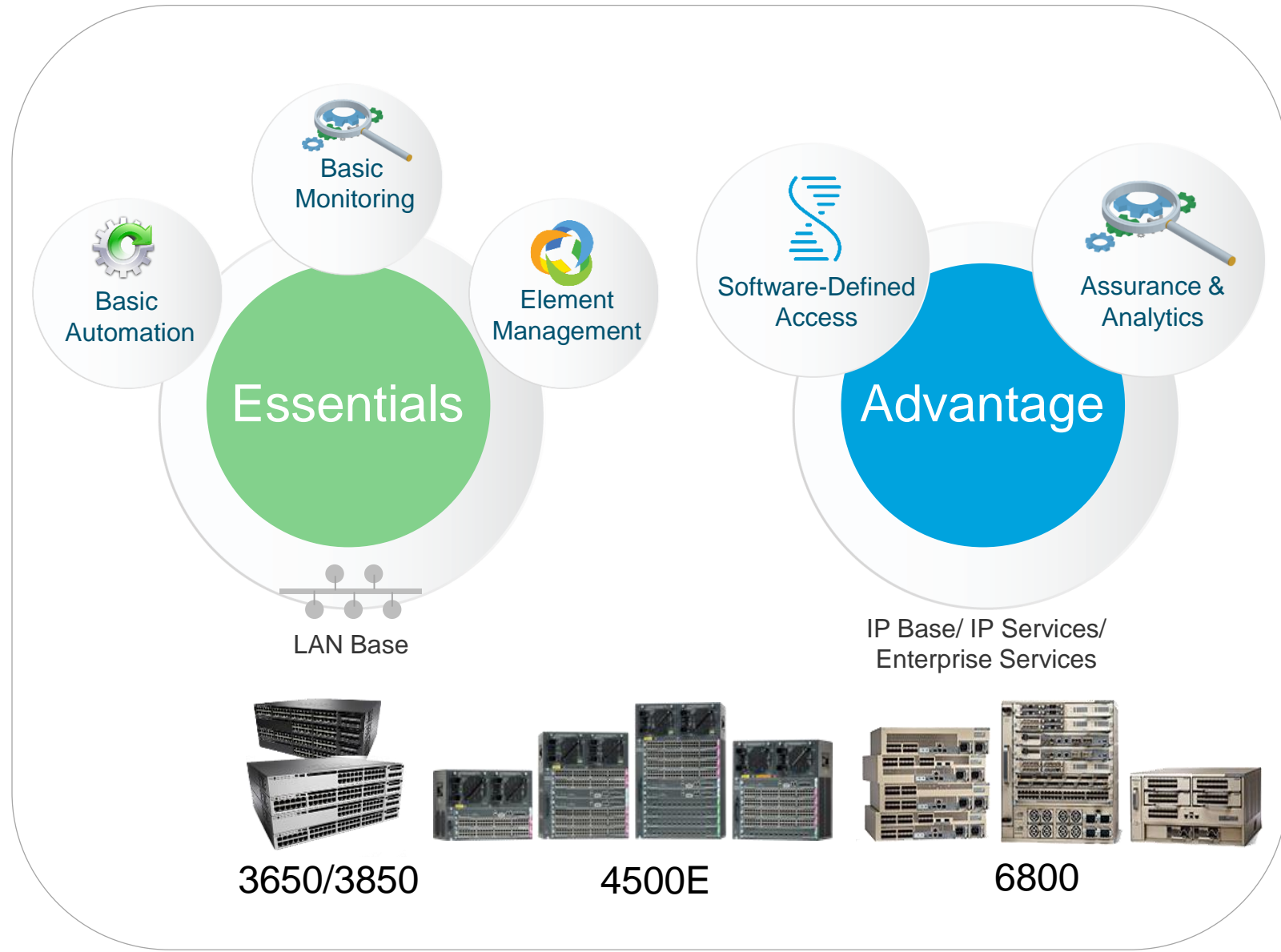- GuestShell (On-Box Python)
- PnP Agent, ZTP

Telemetry & Visibility
- Model-driven Telemetry
- Sampled NetFlow
- SPAN, RSPAN

- C9K HW **includes** the Perpetual Network Stack – Network Essentials or Network Advantage
- **Mandatory** to attach DNA License when ordering C9K
- DNA License includes Switch and DNA Center Features

*9400/9500

Introducing DNA Add-on Licenses for 3K, 4K, 6K

Basic Monitoring

Basic Automation

Element Management

Essentials

LAN Base

2960X/XR/L   4500X

Basic Monitoring

Basic Automation

Element Management

Essentials

LAN Base

Software-Defined Access

Assurance & Analytics

Advantage

IP Base/ IP Services/ Enterprise Services

3650/3850   4500E   6800

Introducing DNA Essentials License

Essentials

- Basic Monitoring
- Basic Automation
- Element Management
- Assurance & Analytics

2960X/XR/L

2960CX

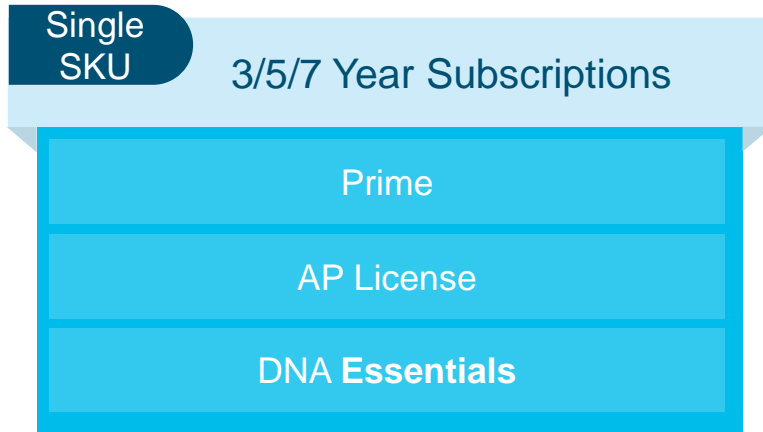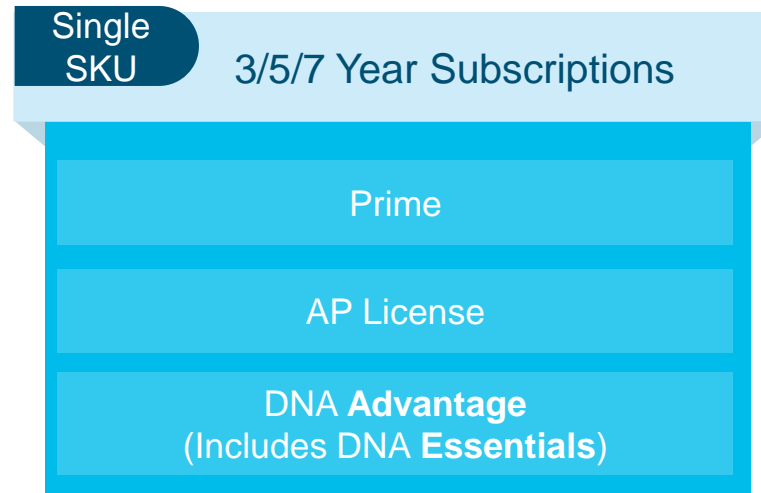| Network Visibility	• DNS - AS • Full Flexible Netflow
Day 0 network bring up automation	• Cisco Network Plug n Play Application
DNA Center	• Discovery • Inventory • Topology • Software image management
Network Monitoring	• Device 360

Wireless: Offer Structure

DNA **Essentials**

Single SKU

3/5/7 Year Subscriptions

Prime

AP License

DNA **Essentials**

Base Automation & Monitoring

DNA Advantage

Single SKU

3/5/7 Year Subscriptions

Prime

AP License

DNA **Advantage**
(Includes DNA **Essentials**)

SDA & Assurance Capable

PREFERRED Cisco ONE Advantage

Single SKU

3/5/7 Year Subscriptions

CMX Base

ISE Base + ISE Plus

Prime

AP License

DNA **Advantage**
(Includes DNA **Essentials**)
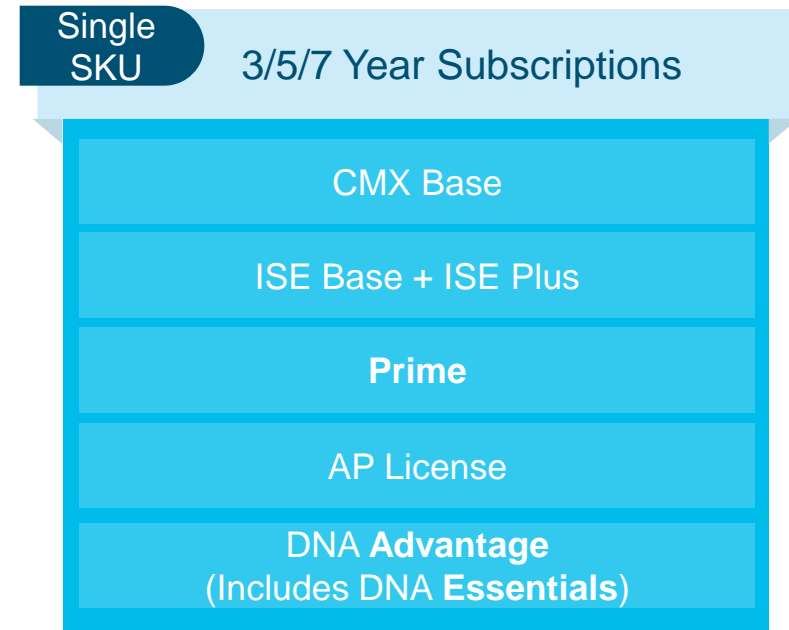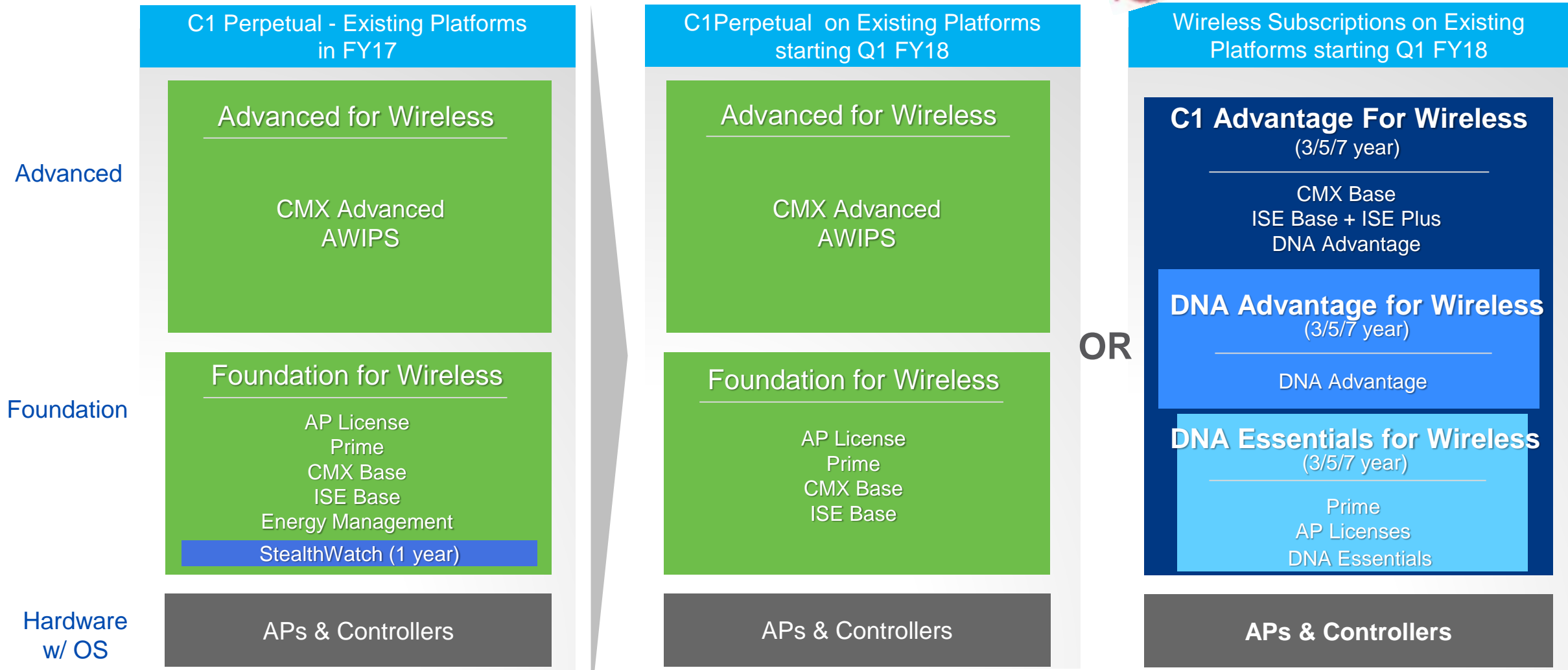
SDA & Assurance Ready

Wave 2 Aironet AP's & Controllers – 3504, 5520 & 8540

Available on Wave 1 with limited functionality

Software Support included in all subscriptions

How does Cisco ONE evolve for existing Wireless Platforms?

Subscription
Perpetual

PREFERRED

Advanced

Foundation

Hardware w/ OS

C1 Perpetual - Existing Platforms in FY17

Advanced for Wireless

CMX Advanced
AWIPS

Foundation for Wireless

AP License
Prime
CMX Base
ISE Base
Energy Management
StealthWatch (1 year)

APs & Controllers

C1 Perpetual on Existing Platforms starting Q1 FY18

Advanced for Wireless

CMX Advanced
AWIPS

Foundation for Wireless

AP License
Prime
CMX Base
ISE Base

APs & Controllers

• *Stealthwatch & Energy management is no longer part of the suite*

OR

Wireless Subscriptions on Existing Platforms starting Q1 FY18

C1 Advantage For Wireless
(3/5/7 year)

CMX Base
ISE Base + ISE Plus
DNA Advantage

DNA Advantage for Wireless
(3/5/7 year)

DNA Advantage

DNA Essentials for Wireless
(3/5/7 year)

Prime
AP Licenses
DNA Essentials

APs & Controllers

Wireless AireOS WLC and Wave2 APs: Advantage vs. Essentials

- • *Beta
- • **Future

Advantage

DNA Advantage (Inclusive of DNA Essentials)

3,5,7 Year Terms

Advanced Automation
- Location Plug and Play
- Automated ISE integration for guest
- Policy-based Automation

Assurance and Analytics
- Proactive Issue Detection and Guided Remediation
- Apple iOS Insights
- Aironet Active Sensor Tests
- Application performance (Packet Loss, Latency and Jitter),
- App 360, AP 360, Client 360 and WLC 360
- SD-Access (Policy-based) Assurance
- Client Location Heatmaps*
- Custom Reports*
- Intelligent capture**

Essentials

DNA Essentials

3,5,7 Year Terms

Base Automation
- Plug and Play
- Network Site Design and Device Provisioning

Element Management
- Image Management
- Network Topology and Discovery

Base Assurance
- Health dashboard (Network, Client and Application)
- AP Floormap and Coverage map
- Application Visibility
- Pre-defined Reports
- Rogue management and detection*

Perpetual Network Stack

Perpetual

Essential Capabilities
802.1x authentications, Guest access, device onboarding, Infra and client IPv6, ACLs, QoS, Videostream, PnP, Smart defaults, RRM, Spectrum intelligence, BLE, Zigbee, USB, TrustSec SXP

Security & IoT
mDNS, IPSec

Telemetry & Visibility
Netconf/Yang for streaming telemetry

Advanced Features
Dynamic QoS, AVC, VXLAN, Analytics, APeX, OpenDNS, Trustsec

IoT Optimized
Identity PSK, Enhanced Device profilers

Enhanced Security Controls
WIPS, Apple Innovations, FIPS

Optimized RF
FRA, Client link, ClearAir Advanced, NG-HDX, Predictive/Proactive RRM
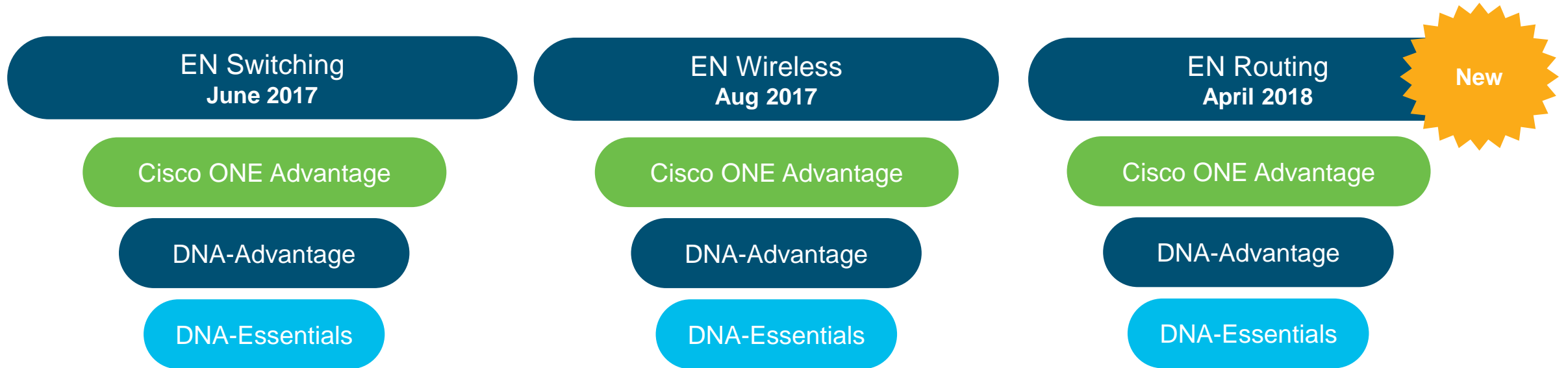
High Availability & Resiliency
SSO

Inclusive of Wireless and DNA Center Capabilities
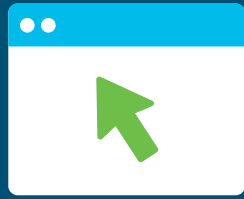
Introducing Software Subscription for Routing

Driving DNA subscriptions across EN
DNA subscriptions available across entire EN portfolio by end of Q3'18

EN Switching	EN Wireless	EN Routing
June 2017	**Aug 2017**	**April 2018**

New

Cisco ONE Advantage	Cisco ONE Advantage	Cisco ONE Advantage
DNA-Advantage	DNA-Advantage	DNA-Advantage
DNA-Essentials	DNA-Essentials	DNA-Essentials

Building DNA adoption momentum across EN

Benefits of software subscription for routing

Latest innovations through simple subscription tiers

- Cisco ONE Advantage
- DNA-Advantage
- DNA-Essentials

Across the routing portfolio

Across ISR 1000 & 4000, ASR 1000, ENCS 5000, Viptela vEdge routers

Management flexibility

Cloud managed or on-prem managed

Routing offer structure

Cisco ONE Advantage

DNA Advantage

DNA Essentials

| Single SKU | 3/5 Year Subscription |

Single SKU — 3/5 Year Subscription

Single SKU — 3/5 Year Subscription

WAN Optimization

Analytics

DNA Advantage

DNA Advantage

DNA Essentials

DNA Essentials

DNA Essentials

Centralized WAN management with basic security and hybrid WAN connectivity

SD-WAN with advanced security, segmentation and optimization for cloud connectivity

Network and application assurance using real-time analytics and WAN optimization

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Network Essentials* (Perpetual)

vEdge, ENCS 5000, ISR 1000, ISR 4000**, ASR 1000

Network Advantage* (Perpetual)

vEdge, ENCS 5000, ISR 1000, ISR 4000**, ASR 1000

Network Advantage* (Perpetual)

vEdge, ENCS 5000, ISR 1000, ISR 4000**, ASR 1000

*Network Essentials and Advantage are perpetual and not required for vEdge.
**Limited availability through EFT in March. ISR 4331 can be cloud managed through vManage. Other platforms to follow.

Software Support included in all subscriptions
Management flexibility: On –prem or cloud based

Routing Offer Details

Centralized Management

- On-prem or cloud managed
- Zero touch deployment
- Branch virtualization with Cisco VNF orchestration
- Day 0 and Day 2 provisioning
- Lifecycle management

Secure Connectivity

- Unlimited segmentation

- SD-WAN and advanced WAN topologies
- Limited segmentation
- Cloud connectivity

- All types of connectivity
- Secure VPN overlay
- Basic L3-L4 firewall, IPS
- Basic application visibility

Policy Based Automation

- Advanced network and application visibility
- WAN Optimization

- Application aware policies using path control, bandwidth optimization
- Contextual insights with assurance
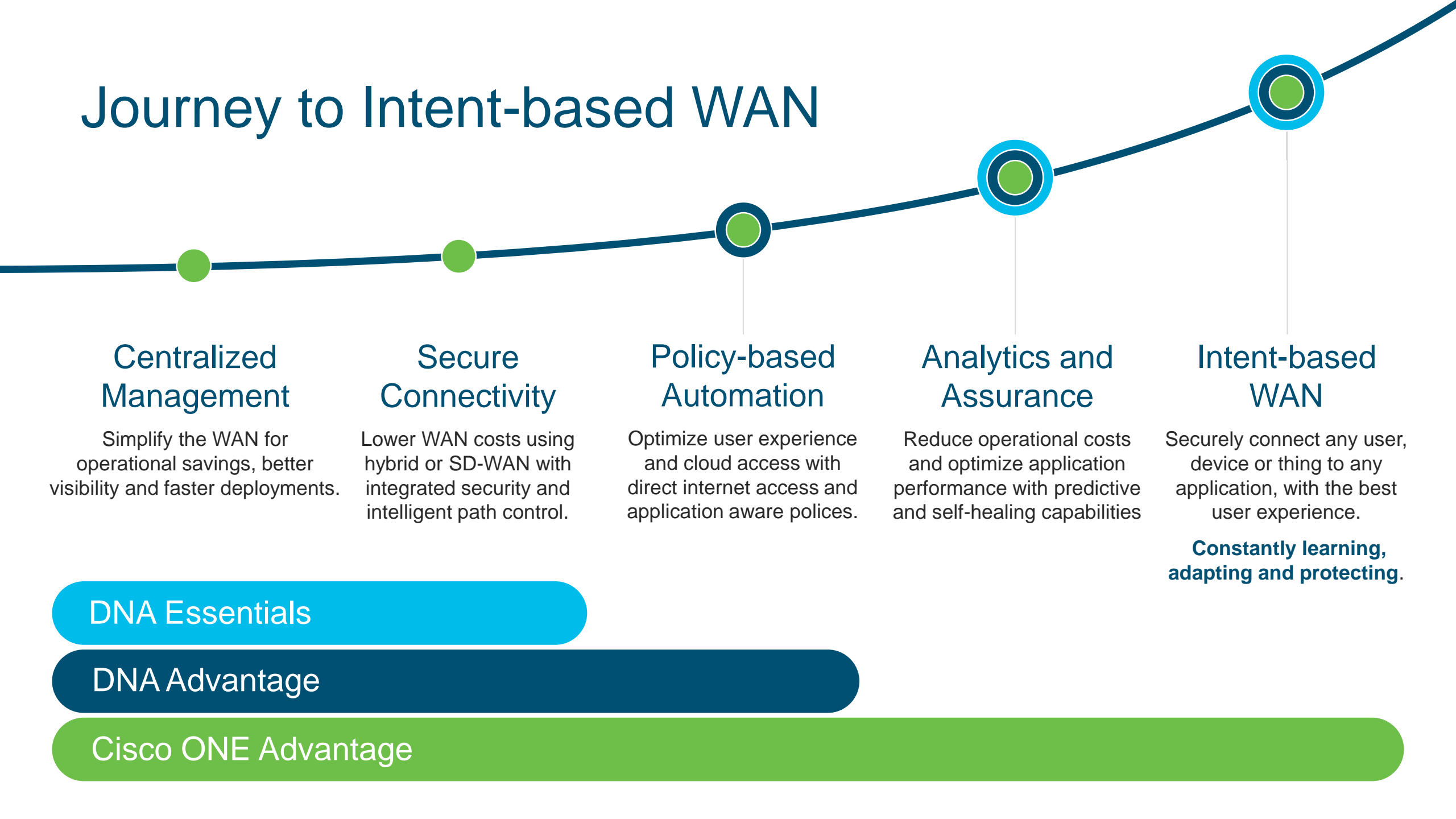- Encrypted traffic analytics

Analytics and Assurance

- Network optimization analytics
- Application trending and forecasting

Network Essentials & Advantage (IP Base + Sec)*

*Network Essentials and Network Advantage are perpetual and not required for vEdge or ENCS

Journey to Intent-based WAN

Centralized Management

Simplify the WAN for operational savings, better visibility and faster deployments.

Secure Connectivity

Lower WAN costs using hybrid or SD-WAN with integrated security and intelligent path control.

Policy-based Automation

Optimize user experience and cloud access with direct internet access and application aware polices.

Analytics and Assurance

Reduce operational costs and optimize application performance with predictive and self-healing capabilities

Intent-based WAN

Securely connect any user, device or thing to any application, with the best user experience.

Constantly learning, adapting and protecting.

DNA Essentials

DNA Advantage

Cisco ONE Advantage

Capabilities for Cloud Managed through vManage

DNA Essentials

3,5 Year Terms

Connectivity
VPN Overlay, Topology: Hub-n-spoke,
NAT, Split tunnel,
2 VPNs: 1 transport, 1 service side
VPN with L2 or L3

Security
Encryption: AES-256,
Policy support: Local ACL only, Data policy

Application Experience
QoS (classification, policing, remarking,
scheduling), App-aware routing (5 tuple only), DPI
for visibility, App visibility (name, throughput)

Management
Viptela vManage platform, Zero Touch
Provisioning, Day 0 , day 1, day N Changes

DNA Advantage (Include DNA Essentials)

3,5 Year Terms

Connectivity
Service-side routing, Mesh topology, Multicast
VPNs: 5 (1 transport, 4 service side)

Security
Control policy
Advanced policies: Service chaining, extranet

Application Experience:
DPI for app-aware routing and policies
SaaS on-ramp (was CloudExpress)
TCP Optimization

Management & Orchestration
End to end SD-WAN policy orchestration,
network and application trouble shooting

C1 Advantage (Include DNA Essentials & DNA Advantage)

3,5 Year Terms

Connectivity: VPNs: Up to system scale

Advanced Application Experience
WAN Full stack WAAS

Analytics:
VAnalytics platform

Platforms Supported Now: vedge
Platforms Support Post July: ISR, ASR, ENCS

Capabilities for On-Prem Managed through DNA Center

DNA Essentials

(3,5 Year Terms)

Router Deployment
Day 0 and Day 2 Changes

Branch Virtualization
NFV provisioning on ENCS and UCS-E
Cisco VNF orchestration only(ISRv, vEdge, vASA and vWAAS)

Application Visibility :name, throughput

Assurance: Router Monitoring (Basic)
VNF monitoring (ISRv, vWAAS), ENFV (ENCS, UCSE),
Dashboards (Overall Health, Network Health, Client Health), topology, pre- canned Reports, custom Thresholds
Automation: Inventory, Discovery, Topology, Software Image Management, Site Management, Network Settings, Credential Update, Integrity Verification, Template Programmer, Canned Reports, PnP Application

DNA Advantage (Include DNA Essentials)

(3,5 Year Terms)

IWAN
IWAN Application

Branch Virtualization
3rd party VNF orchestration

Assurance: Router 360 ,ENFV 360, Router underlay insights, ENFV Insights, 360 pages, Health score, Time Travel, Targeted Insights, Neighbor topology, Path trace, KPIs, Baselining, Trends, custom reports (application experience, SDA, Wifi KPIs etc.)
Automation: Application Policy, SWIM (Patching), SD Bonjour, ETA, Reporting (Tableau)

C1 Advantage (Include DNA Essentials & DNA Advantage)

(3,5 Year Terms)

Advance application experience
AppNav, WAN Full stack WAAS (managed by WCM- WAAS Central Manager)

Network Essentials

(Perpetual)

Essential Routing Capabilities
BGP, OSPF, EIGRP, IGMP, IGRP, ISIS, LACP, RIP
Router Management
EEM, TACACS+, NETCONF, AAA, DNS, DHCP, DPI Visibility (Full FNF), IPSLA, Basic Qos (classification, Policing, Remarking, scheduling), NAT
VPNs: GETVPN, FlexVPN, GRE, DMVPN (Hub Spoke)
Security: IKE, IPSEC, PKI, MacSec
Zone Based Firewall, encryption algorithms (AES,DES,3DES, SHA,MD5), IPS(community signature), ALG, SSLVPN, Trustsec SXP

Network Advantage

(Perpetual)

Routing Capabilities:
Multicast, MPLS
App based policy:
PFR, PBR, App Aware Qos Policy, TCP optimization, App performance troubleshooting (co-related insights)
Segmentation:
Trustsec (SGT, SGACL), SDA Border, SDA Ctrl plane, VRF Segmentation
VPNs: DMVPN– full Mesh topology support, LISP
Branch Virtualization:
Backup / Snapshot / restore, Stateful High Availability, Clustering

Platforms: ISR, ASR, ENCS

Routing offer evolution over time

Legend:
- Perpetual SW (green)
- Subscription SW (light blue)
- Hardware (dark blue)
- New release (dotted orange outline)

	Existing Offer		March '18		July '18	
	DNA Center	**vManage**	**DNA Center**	**vManage**	**DNA Center**	**vManage**
SW	C1 Perpetual	Enterprise	C1 Advantage		C1 Advantage	
		OR			*OR*	
	AX/AXV	Pro	DNA Advantage		DNA Advantage	
		OR		*OR*		*OR*
	App / Sec / UC	Plus	DNA Essentials		DNA Essentials	
HW	ISR / ASR / ENCS	vEdge	ISR / ASR / ENCS	vEdge	ISR / ASR / ENCS	ISR / ASR / ENCS or vEdge

* DNA includes network stack. If DNA subscription expires, one will be entitled to use network stack with existing hardware.

Key take-away
From March '18, DNA subscription offers for both DNA Center and vManage
From July '18, ISR 1000, ISR 4000, ASR 1000 and ENCS 5000 will be supported by vManage

How to choose?

Cisco ONE Advantage

DNA Advantage

DNA Essentials

1   Identify license tier

2   Select bandwidth

3   Pick license term

4   Choose on premises or cloud managed

5   Determine platform for future scale

WAN Solutions that Grows with your Business

License Portability

Subscription Tiers

Term

Bandwidth

Move across management platforms (DNA-C vs vManage), physical vs. virtual seamlessly

Upgrade from DNA Essentials to Advantage tiers

Term flexibility: 3/5 years

Bandwidth choice : 10M- 10G

Respond to Business Needs Faster

New Easy to Order PID's

Lead with new PID'S for key product families

Easy attach of DNA offers

Better Pricing

Product Family*	NEW PIDs	Description
ISR 4000 Series	**ISR4331-DNA**	**Cisco ISR 4331 (3 GE, 2 NIM, 1 SM) with DNA Support**
ISR 4000 Series	ISR4451-DNA	Cisco ISR 4451 (4 GE, 3 NIM, 2 SM) with DNA Support
ISR 1000 Series	C1111-8P-DNA	ISR 1100 8 Ports Dual GE WAN with DNA Support
ISR 1000 Series	C1111-8PLTEEA-DNA	ISR 1100 8 Port Dual GE LTE EA with DNA Support
ISR 1000 Series	C1111-8PLTELA-DNA	ISR 1100 8 Port Dual GE LTE LA with DNA Support
ASR 1000 Series	ASR1001-X-DNA	Cisco ASR 1001-X Crypto,6GE, Dual-PS with DNA Support
ASR 1000 Series	ASR1002-HX-DNA	Cisco ASR 1002-HX, 4x10GE+4x1GE, Dual PS with DNA Support
VEDGE 100 Series	VEDGE-100B-AC-K9	vEdge-100 AC chassis with 5 Ethernet ports, rack mount kit and cables
VEDGE 100 Series	VEDGE-100M-AC-K9*	vEdge-100 AC chassis with single 4G/LTE SIM, integrated power supply, 5 Ethernet ports
VEDGE 100 Series	VEDGE-100WM-AC-K9*	vEdge-100 AC chassis with single 802.11 radio and single 4G/LTE SIM, integrated power supply, 5 Ethernet ports and cables
VEDGE 1000 Series	VEDGE-1000-AC-K9	vEdge-1000 AC base chassis with 8x1GE fixed ports, dual AC power adapters and cables
VEDGE 2000 Series	VEDGE-2000-AC-K9	vEdge-2000 AC base chassis with 4x1GE fixed ports and dual Pluggable Interface Module
VEDGE 5000 Series	VEDGE-5000-AC-K9	vEdge-5000 AC router base chassis with 4x10G, 8x1G copper, 8x1G fiber modular NIMS

*Refer to the Cisco SD-WAN VEDGE Ordering Guide for more info.
Subscription for product families not shown here can be purchased as a-la-carte