Licenses & Networking for everybody: DNA

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Cisco DK
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Driving DNA subscriptions across EN
DNA subscriptions available across entire EN portfolio by end of Q3’18

EN Switching
June 2017
Cisco ONE Advantage
DNA-Advantage
DNA-Essentials

EN Wireless
Aug 2017
Cisco ONE Advantage
DNA-Advantage
DNA-Essentials

EN Routing
April 2018
Cisco ONE Advantage
DNA-Advantage
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

Network Essentials
Cat 9K OS

Network Advantage
Cat 9K OS

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

3/5/7 års DNA Advantage

3/5/7 års DNA Essentials
# Catalyst 9K - Advantage vs. Essentials

**C9300, C9400, C9500**

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<td>- Global Insights, Trends,</td>
<td>- Health Dashboards – Network, Client, Application</td>
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<td>- Compliance, Custom Reports</td>
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<th><strong>Network Advantage (Inclusive of Network Essentials)</strong></th>
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<td>PVLAN, VRRP, PBR, CDP, QoS, FHS, 802.1x, Macsec-128, CoPP, SXP, IP SLA Responder</td>
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<td>CoAP, AVB, PTP</td>
<td>SSO</td>
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<td>Full Routing Functionality</td>
<td>DevOps Integration</td>
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<tr>
<td>BGP, HSRP, OSPF, ISIS, GLBP</td>
<td>- Netconf, Restconf, gRPC</td>
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<td>- Yang Data Models</td>
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<td>- GuestShell (On-Box Python)</td>
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<td>- PnP Agent, ZTP</td>
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<td></td>
<td>Telemetry &amp; Visibility</td>
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<td>- Model-driven Telemetry</td>
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<td>- Sampled NetFlow</td>
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<td>- SPAN, RSPAN</td>
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</tbody>
</table>

- 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

- Essentials
  - Basic Automation
  - Element Management
  - LAN Base

- Advantage
  - Software-Defined Access
  - Assurance & Analytics
  - IP Base/IP Services/Enterprise Services

- DNA Add-on Licenses
  - 2960X/XR/L
  - 4500X
  - 3650/3850
  - 4500E
  - 6800
Introducing DNA Essentials License

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

**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

2960X/XR/L

2960CX
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

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

Software Support included in all subscriptions
How does Cisco ONE evolve for existing Wireless Platforms?

**Advanced**

- **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)**

- **C1 Perpetual on Existing Platforms starting Q1 FY18**
  - **Advanced for Wireless**
    - CMX Advanced
    - AWIPS
  - **Foundation for Wireless**
    - AP License
    - Prime
    - CMX Base
    - ISE Base

**Hardware w/ OS**

- APs & Controllers

**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

**OR**

- APs & Controllers

- **Stealthwatch & Energy management is no longer part of the suite**
## Wireless AireOS WLC and Wave2 APs: Advantage vs. Essentials

### DNA Advantage (Inclusive of DNA Essentials)

#### 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**

### DNA Essentials

#### 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

#### 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

### Optimized RF
- FRA, Client link, ClearAir Advanced, NG-HDX, Predictive/Proactive RRM

### IoT Optimized
- Identity PSK, Enhanced Device profilers

### Enhanced Security Controls
- WIPS, Apple Innovations, FIPS

### High Availability & Resiliency
- SSO
Introducing Software Subscription for Routing
Driving DNA subscriptions across EN
DNA subscriptions available across entire EN portfolio by end of Q3’18

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

**DNA Essentials**
3/5 Year Subscription
Centralized WAN management with basic security and hybrid WAN connectivity

**DNA Advantage**
3/5 Year Subscription
SD-WAN with advanced security, segmentation and optimization for cloud connectivity

**Cisco ONE Advantage**
3/5 Year Subscription
WAN Optimization
Analytics
DNA Advantage
DNA Essentials
Network and application assurance using real-time analytics and WAN optimization

**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 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.
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 policies.

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

Network Essentials
- 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
- Routing Capabilities:
  - Multicast, MPLS
- App based policy:
  - PFR, PBR, App Aware QoS Policy, TCP optimization, App performance troubleshooting (related insights)
- Segmentation:
  - Trustsec (SGT, SGAACL), 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

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Routing offer evolution over time

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<td>DNA Center</td>
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<tr>
<td>HW</td>
<td>ISR / ASR / ENCS</td>
<td>vEdge</td>
<td>ISR / ASR / ENCS</td>
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* 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
Move across management platforms (DNA-C vs vManage), physical vs. virtual seamlessly

Subscription Tiers
Upgrade from DNA Essentials to Advantage tiers

Term
Term flexibility: 3/5 years

Bandwidth
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

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

*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.