



Catalyst 3850 10G SFP+ Switch

Catalyst Fixed Aggregation Portfolio Update

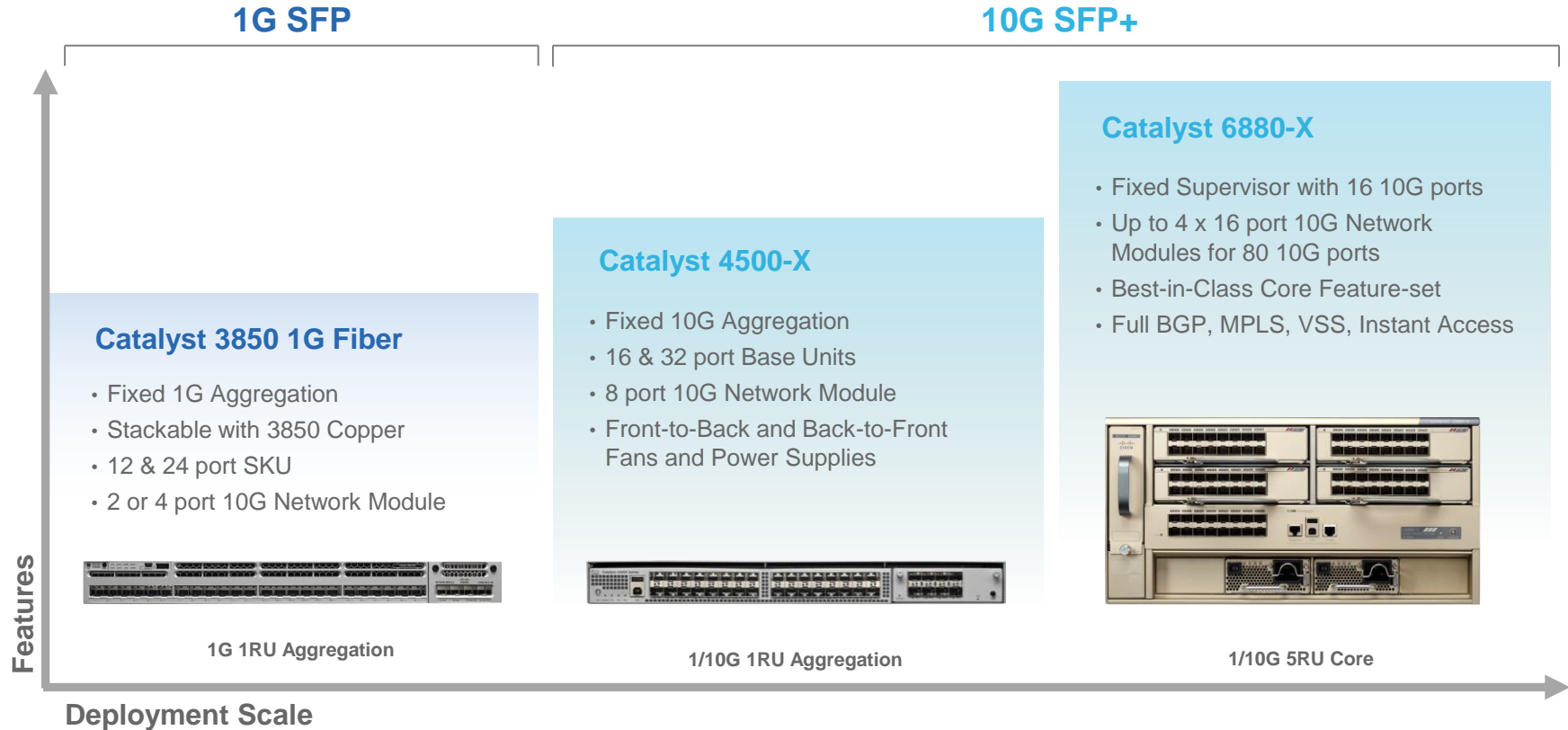
Catalyst Product Management Team

Agenda

- Catalyst Fixed Access Portfolio
- Catalyst 3850 10G SFP+ Switch Introduction
- Catalyst 3850 Key Features
- Catalyst 3850 10G SFP+ Switch Under the Covers

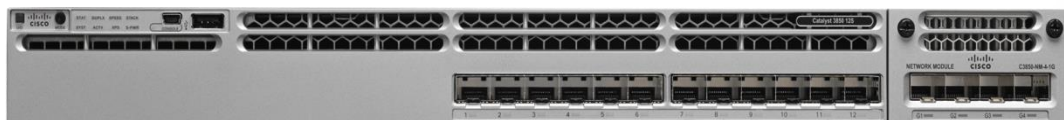


Catalyst Fixed Backbone Portfolio – Pre 2015

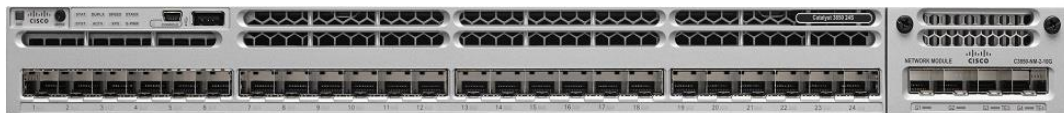


Catalyst 3850 1G Fiber Switches

3850 Portfolio Strengthened with UADP Innovation



12 Ports
1G SFP



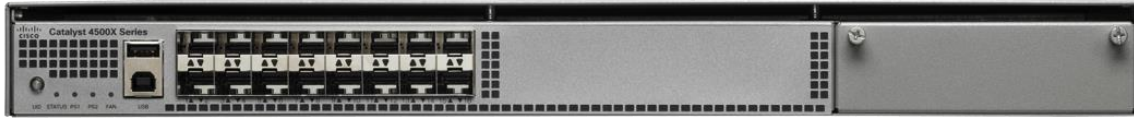
24 Ports
1G SFP

SKU	Description
WS-C3850-12S-S	Catalyst 3850 12 port 1G SFP IP Base
WS-C3850-12S-E	Catalyst 3850 12 port 1G SFP IP Services
WS-C3850-24S-S	Catalyst 3850 24 port 1G SFP IP Base
WS-C3850-24S-E	Catalyst 3850 24 port 1G SFP IP Services

Key Benefits

- 12 and 24 port 1GbE SFP-based SKUs
- 2x10G or 4x1G Uplinks
- Built on UADP ASIC
- Stackable with 3850 Access switches
- StackPower
- SDN Ready
- Integrated Mobility Controller (Converged Access)

Catalyst 4500-X



WS-C4500X-16SFP+



WS-C4500X-32SFP+

Front to Back Airflow
Burgandy color fan and P/S handle



Back to Front Airflow
Blue color fan and P/S handle



**8-port 10GE Modular Uplink Module
C4KX-NM-8SFP+**



Removable Fan Module



750WAC Modular P/S



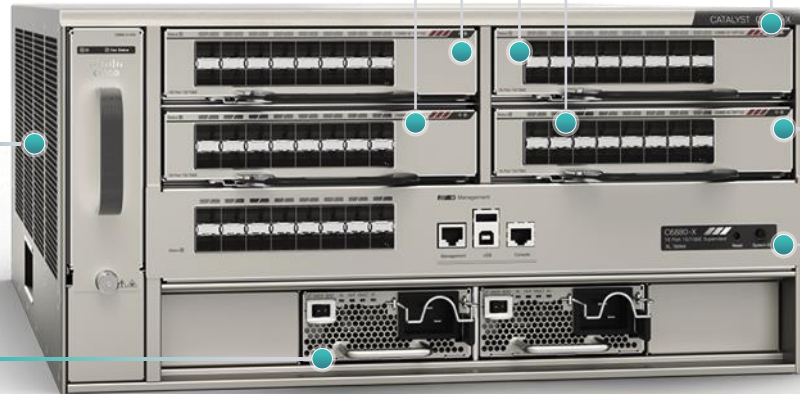
The New Catalyst 6880-X

C6K-Based “Extensible” Fixed Platform

Up to 80 x 1G/10G or
20 x 40G * ports

Low Power &
Low Noise Fans

Platinum EFF
Redundant AC & DC PS



VSS, Instant Access, MPLS,
VPLS, LISP, MACSEC, SGT,
1588(*) capable on every port

Each Card has 16 x 1G/10G
or up to 4 x 40G ports

Fixed Supervisor module
X86 2.0 GHz CPU
up to 4GB DDR3 DRAM

* Requires CVR-4SFP-QSFP Adapter Cable

Front Serviceable Power Supplies and Fan Tray,
NEBS Compliant Platform

Fixed Backbone Portfolio Future

Products to *Win* All Segments



Catalyst Fixed Backbone Portfolio - 2015

1G SFP

10G SFP+

Scale / Features

Catalyst 3850 1G Fiber

- Fixed 1G Aggregation
- Stackable
- 12p and 24p SKU
- 10G Network Module



1G 1RU Aggregation

Catalyst 3850 10G Fiber

- Fixed 10G Aggregation
- 12p, 24p & 48p SKU
- Stackable (12p/24p)
- 10G & 40G Network Module



1/10G 1RU Aggregation

NEW

Catalyst 4500-X

- Fixed 10G Aggregation
- 16p & 32p Base Units
- 8 port 10G Network Module
- Front-to-Back and Back-to-Front Fans and Power Supplies



1/10G 1RU Aggregation

Catalyst 6840-X

- Fixed 10G Core & Agg
- 16p & 32p 10G SKU
- 24p & 40p 10/40G SKU
- Front-to-Back Fans and Power Supplies
- Best-in-Class Core Feature-set
- BGP, MPLS, VSS, Instant Access



1/10G 2RU Core & Agg.

NEW

Catalyst 6880-X

- Fixed Supervisor with 16 10G ports
- Up to 4 x 16 port 10G Network Modules for 80 10G ports
- Best-in-Class Core Feature-set
- BGP, MPLS, VSS, Instant Access



1/10G 5RU Core

Catalyst 3850 10G SFP+ Switches



WS-C3850-12XS



WS-C3850-24XS

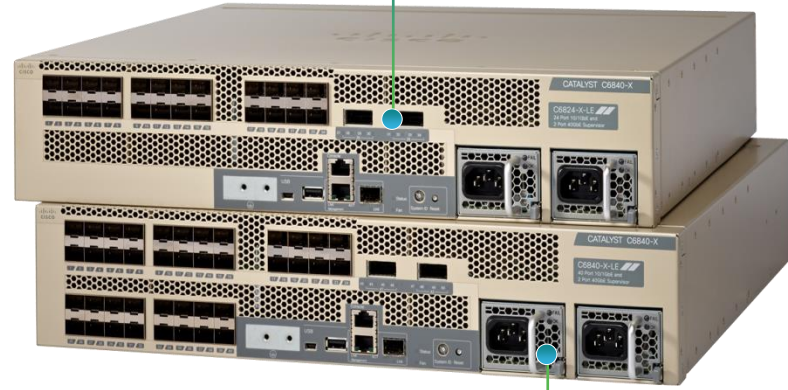


WS-C3850-48XS

Introducing Catalyst 6840-X

Target
Q3CY15

Up to 2 x 40G QSFP Uplinks
Breakout to 4 x 10G SFP /SFP+



Height:
2RU

Depth:
21.8"

High scale control
plane with x86 CPU

10/100/1000M GLC-T
1G SFP, 100M FX

VSS, Instant Access, SGT,
MACSEC

750W/1100W
Redundant AC/DC
Front-to-Back Airflow

All Catalyst 6K Features with no Compromise in a Smaller Form Factor

Cisco Catalyst Fixed Solution for every customer need

Customer Needs:

- Migration path for C3K 1G
- UADP ASIC based
- Stacking – StackWise and StackPower*
- Customers who need up to 48p of 10G



Catalyst 3850 10G Fiber

Customer Needs:

- Rich layer 2 and 3 features
- Large tables, deep buffers and rich multicast features
- L3 Scale and performance
- VSS



Catalyst 4500-X

Customer Needs:

- All 3000+ C6K L2 and L3 features from day one
- Full Feature MPLS, VPLS
- XL Option for higher scale**
- Large tables, deep buffers and rich multicast features
- VSS
- Instant Access



Catalyst 6840-X



Catalyst 6880-X

Catalyst 3850 10G SFP+ Switch

UADP ASIC Enables Convergence

Built on UADP

Unique and powerful Cisco innovation

Hardware performance with software flexibility

Optimized Performance

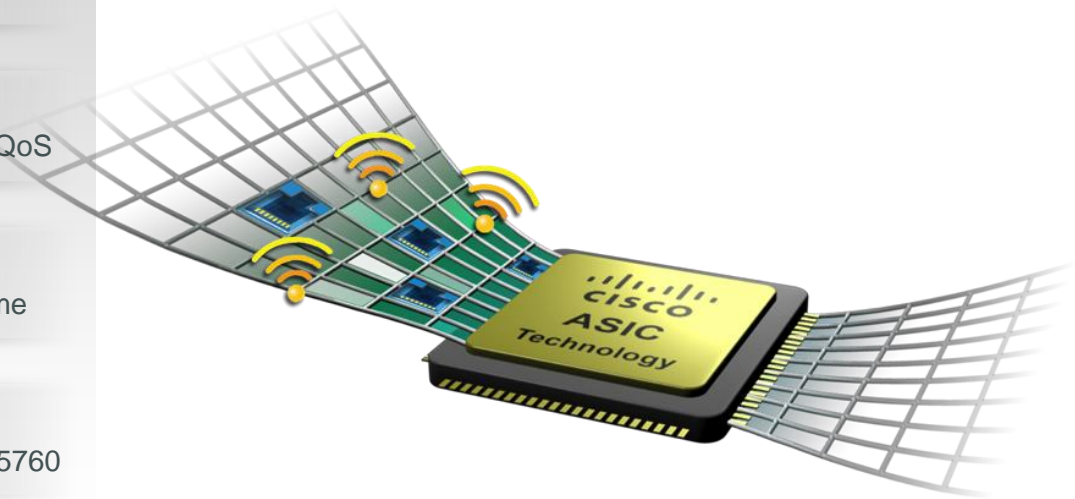
CAPWAP encapsulation/de-capsulation, Flexible Netflow, QoS

Future Proofed and Programmable

Flexparser enables new features over the product lifetime

UADP is used across multiple platforms

Catalyst 3850, Catalyst 3650, Catalyst 4500/Sup8E, WLC5760



Catalyst 3850 10G SFP+

12 Port and 24 Port

Shipping

WS-C3850-12XS



C3850-NM-4x10G

WS-C3850-24XS



New

New



C3850-NM-4x10G



C3850-NM-2x40G



C3850-NM-8x10G

UADP2 ASIC

Converged Access

StackWise-480

StackPower

1+1 Power Redundancy

Line-Rate



The New Catalyst 3850 Uplink Modules



2x40Gig, QSFP

80G Non Blocking

**Works on mGig and 10G
Fiber (24-port) Switches**



8x10Gig, SFP/SFP+

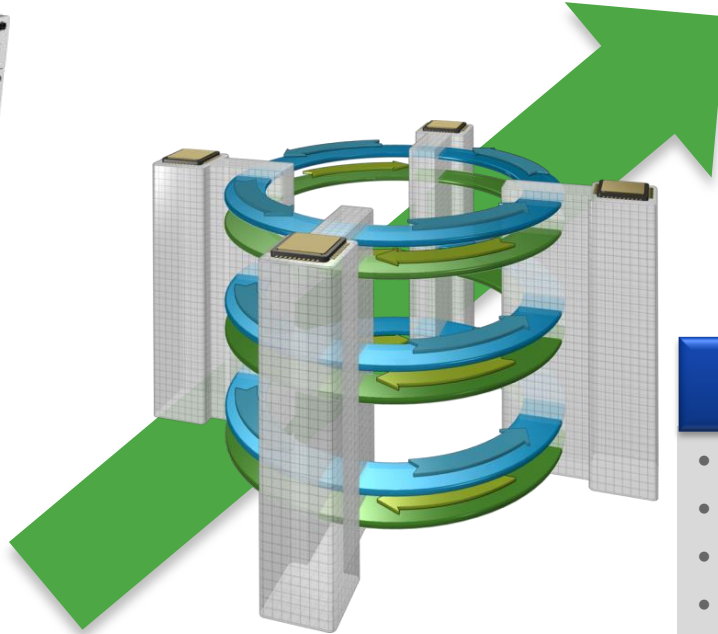
80G Non Blocking

**Work on mGig and 10G
Fiber (24-port) Switches**

Performance

Compatibility

StackWise Technology – Up to 480G bandwidth



3850

- UADP enabled stacking
- Up to 9 member stack
- Inbuilt stacking module
- Stacking up to 480G
- Active-Standby Model
- Faster Convergence

Stack Power for Catalyst 3850



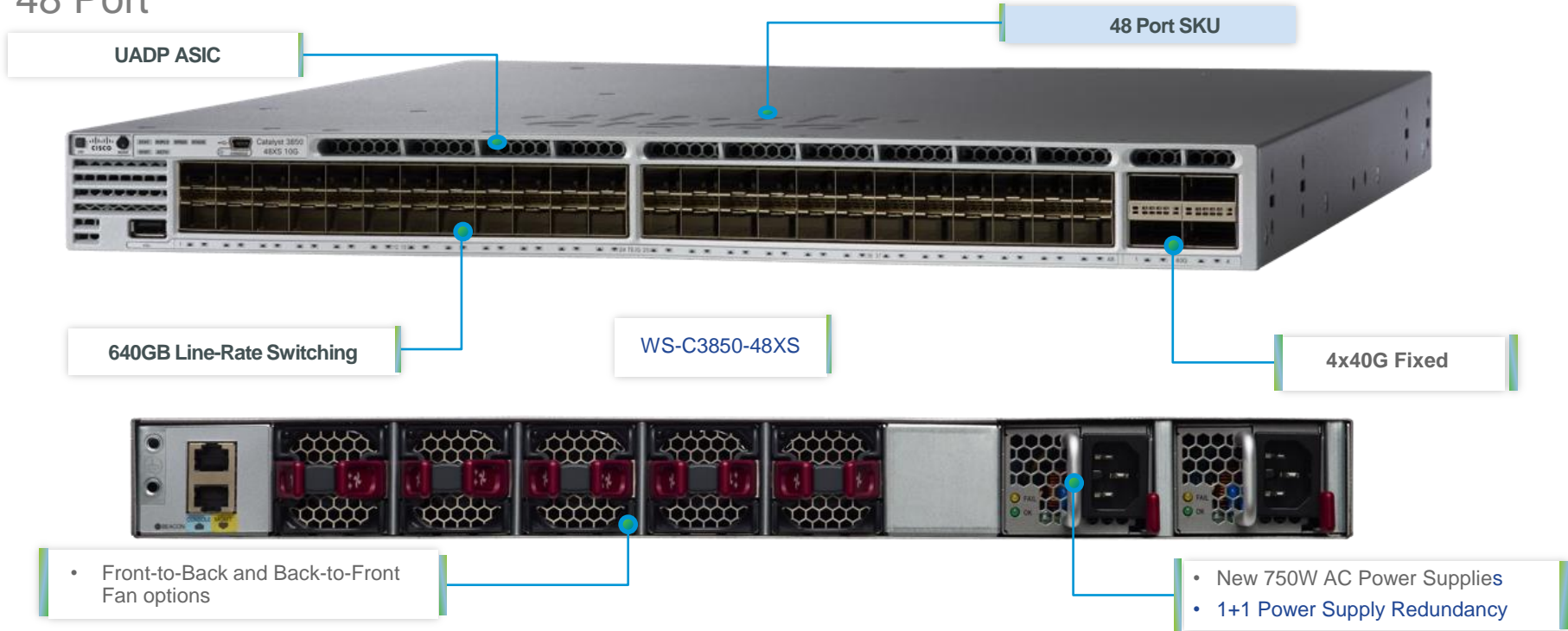
STACK POWER

- Supported on up to 4 Stack members
- Power Resiliency - Adaptable “pool of power” available to all stack members
- Provides “Zero-footprint” RPS i.e. power supply redundancy without an RPS
- Intelligent power shedding—turn off low priority PoE end devices in the event of a power supply failure

Catalyst 3850 10G SFP+

48 Port

Target
Q3CY15



UADP2 ASIC

Converged
Access






1+1 Power
Redundancy

Line-Rate

Front-to-Back & Back-to-Front
Fans and Power Supplies

Note: No StackWise or StackPower on 48p SKU

C3850 10G Fiber SKUs and Price

	WS-C3850-12XS	WS-C3850-16XS Convenience Bundle	WS-C3850-24XS	WS-C3850-32XS Convenience Bundle	WS-C3850-48XS
					
# 10G Ports	12	16	24	32	48
Total Capacity	160G	160G	320G	320G	640G
Network Modules Supported	C3850-NM-4-10G	Slot Occupied	C3850-NM-4-10G C3850-NM-8-10G C3850-NM-2-40G	Slot Occupied	4x40G fixed (No FRU Network Module)
Key Features	Stacks with C3850 family – Stackwise and StackPower				
IP Base Includes 2 AC PS	\$14,000	\$18,000	\$22,000	\$28,000	\$52,000
IP Services Includes 2 AC PS	\$16,000	\$20,000	\$26,000	\$32,000	\$60,000

Key Dates – Catalyst 3850 10G SFP+

➤ **Product Orderability**

- 12-Port and 24-Port : June,2015
- 48-Port : Q3CY15

➤ **Product FCS**

- 12-Port and 24-Port : July, 2015
- 48-Port : Q3CY15

➤ **External Launch**

- Cisco Live San Diego – June,2015
- Cisco ONE July,2015

Additional documentation

Catalyst 3850-XS (10G SFP+)

www.cisco.com/go/3850

The following information is available from this page

- [Datasheet](#)
- [Model Comparison Matrix](#)
- [FAQ](#)
- [Sales Resources](#)
- [Presentations](#)
- [At-A-Glance](#)



The screenshot shows the Cisco Catalyst 3850 Series Switches product page. The page features a navigation bar with links for Products & Services, Support, How to Buy, Training & Events, Partners, and Employees. The main content area includes a navigation menu on the left with options like HOME, PRODUCTS & SERVICES, SWITCHES, and Cisco Catalyst 3850 Series Switches. The main content area displays a product image of the switch, a 'Compare Models' button, and a 'Data Sheets and Literature' section. The right sidebar contains 'Partner Help' with links for 'Open a Case', 'Call 1-800-GO-CISCO', and 'Ordering' options like 'Get Pricing', 'Get Lead Time', and 'Configure Product'. The page also includes social media sharing options and a 'Support' section with links for 'All support information for Cisco Catalyst 3850 Series Switches' and 'Download Software for this Product'.

Documentation will be updated when Orderability is turned on

Catalyst 3850 Key Features



One Network with
Converged Access



One Policy with
Identity Services Engine



One Management with
Prime Infrastructure



SDN
APIC-EM



High Availability
StackWise and StackPower



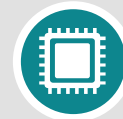
Maximize Throughput
with Stackwise-480



Secure Segmentation
with TrustSec



NG PnP for Zero Touch
Deployment of Network
Devices



UADP Flexparser ASIC
SDN-ready



UPOE to Connect Broad
Range of End Points -
VDI and LED lights



Flexible Port Options
with 1G Copper, MGIG,
1G and 10G Fiber



Network as Sensor with
Device Profiler,
NetFlow and Wireshark



IT Simplicity with AutoConf,
Interface Template and EEM



Rich Media Experience
Modular QoS



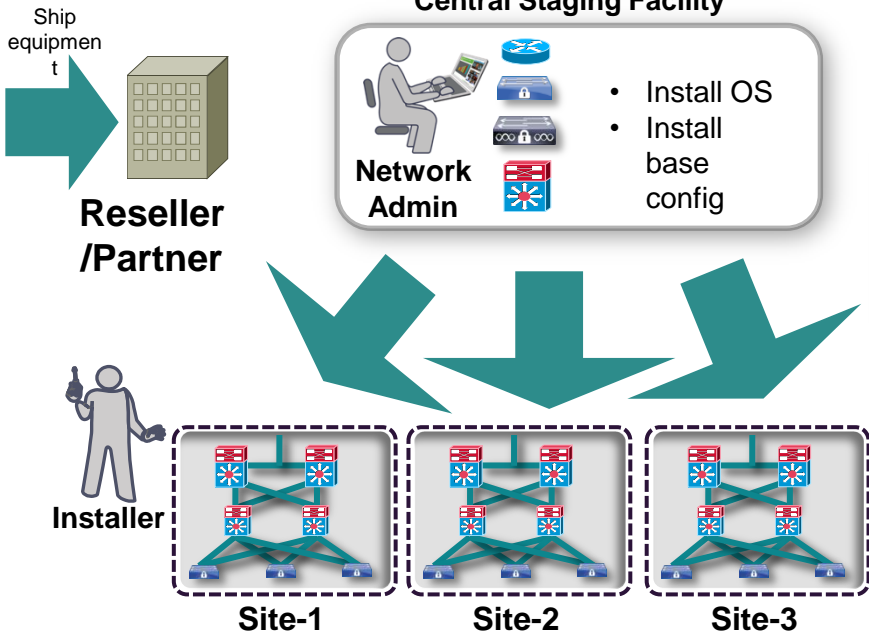
EnergyWise for Improved
Energy Savings

Network Plug-n-Play

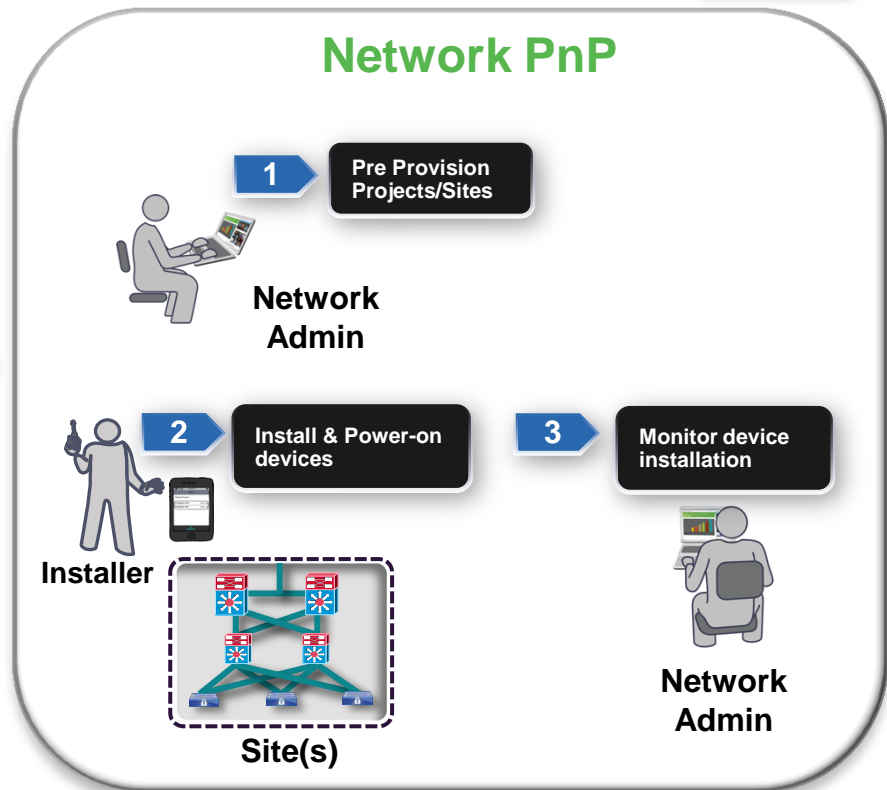
Simple, Secure, Scalable

shipping
since
3.6.0E

Today's Process



Network PnP



Unskilled
Installer

GUI Based

Consistent for devices &
PIN(Campus/Branch)

Secure

Zero-touch
RMA

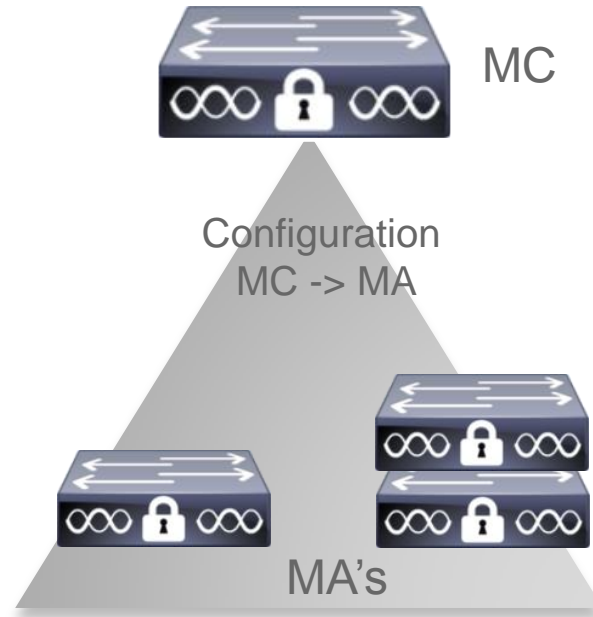
Greenfield
& Brownfield

Converged Access Enhancements

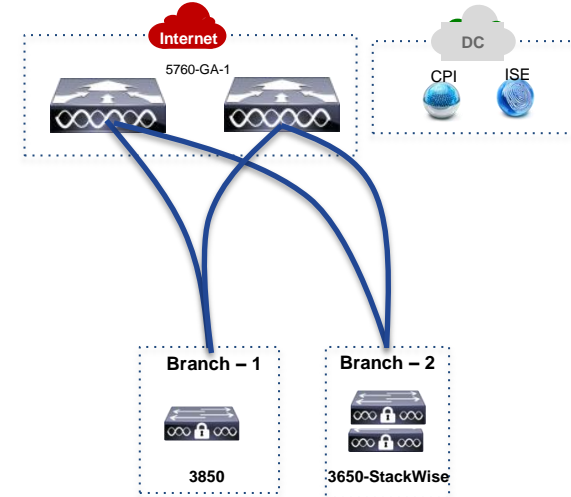
Wireless Regulatory Domain

India(D)	✓
Indonesia(F)	✓
Brazil (-Z mapping T to Z)	✓
Singapore & Hong Kong (-S mapping N to S)	✓
Iraq(-M for outdoor)	✓

MC managing MA



Prime CA Templates



Available starting from CPI 2.2.1 with Wireless TechPack 1.0

Interface Templates

**EASY TO CREATE
AND MODIFY**

EASY TO MANAGE

**EASY TO
TROUBLESHOOT**

```
3850X(config)# interface Gig 1/0/11
3850X(config-if)# source template APPLE_TV_INTF_TEMPLATE
3850X(config-if)# end
```

```
3850X# show run int gi1/0/11
Current configuration : 79 bytes
!
interface GigabitEthernet1/0/11
 source template APPLE_TV_INTF_TEMPLATE
end
```

```
3850X# show derived interface Gig 1/0/11
Building configuration...
```

```
Derived configuration : 156 bytes
!
interface GigabitEthernet1/0/11
 description Apple TV
 switchport access vlan 33
 switchport mode access
 mls qos trust dscp
 spanning-tree portfast
end
```

IOS XE 3.7 – Standard Release

New releases and roadmap items



Shipping

December CY14

Shipping

April CY15

Plan

July CY15

3.7.0

- Cat4K/Sup-8E wireless support
- New AP: Access Point 1700(2 SS 802.11ac), Outdoor AP1570/11ac (Centralized Mode)
- World Regulatory Domain
- Regulatory domains: India (D), Indonesia (F), Brazil (-Z map T to Z), Singapore & HongKong (-S map N to S), Iraq (-M for outdoor)
- WebAuth Sleeping Client
- Wireless AVC Top N
- AP Pass-through Automation
- MC Management of MA (3650,3850)
- AutoQoS for Wireless
- AFD visibility
- Prime CA Templates
- MACSec SW-to-SW (3850/3650) - SAP
- Prime 2.2, MSE 8.0

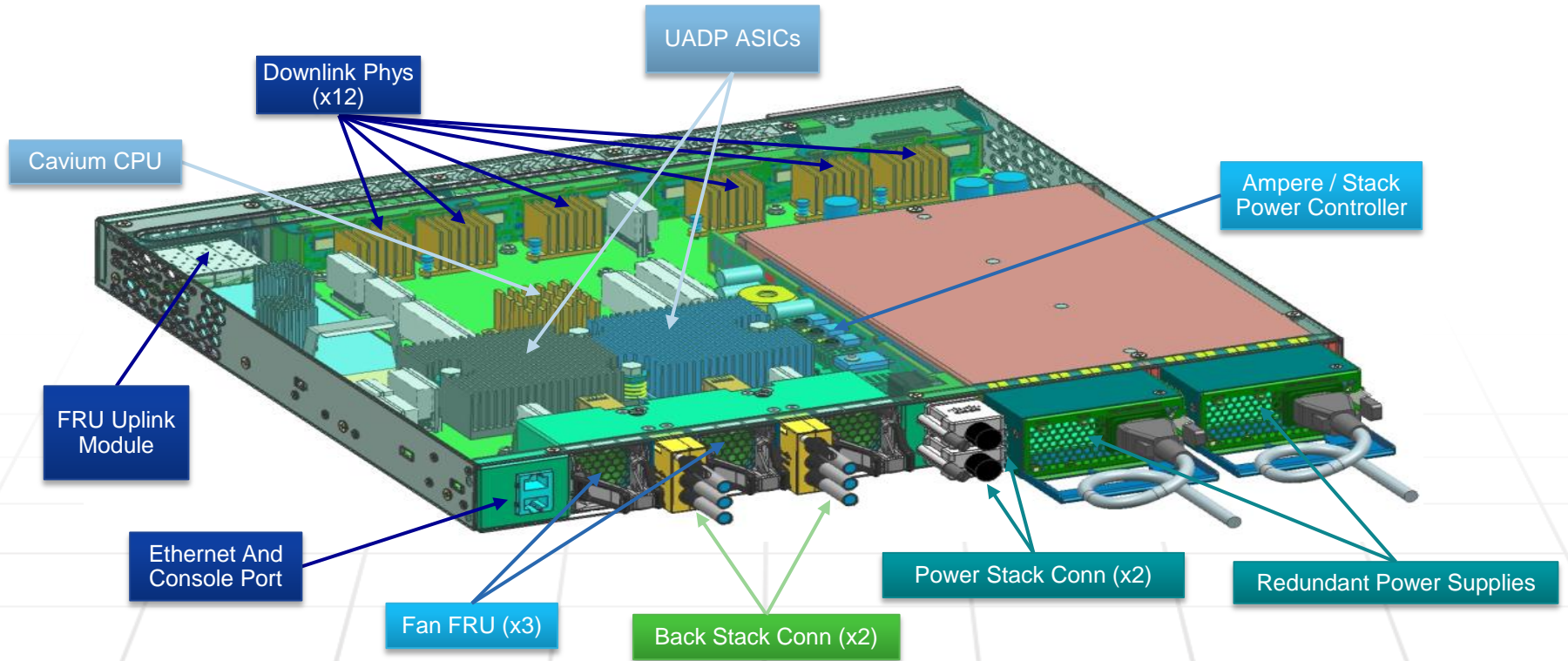
3.7.1 – MR1

- SGT and Destination SGT for Flexible Net Flow2
- XPS for 3850
- SFP BiDirectional (BiDi) Optics (40/80 KM)
- SFP+ BiDirectional (BiDi) Optics

3.7.2 – MR2

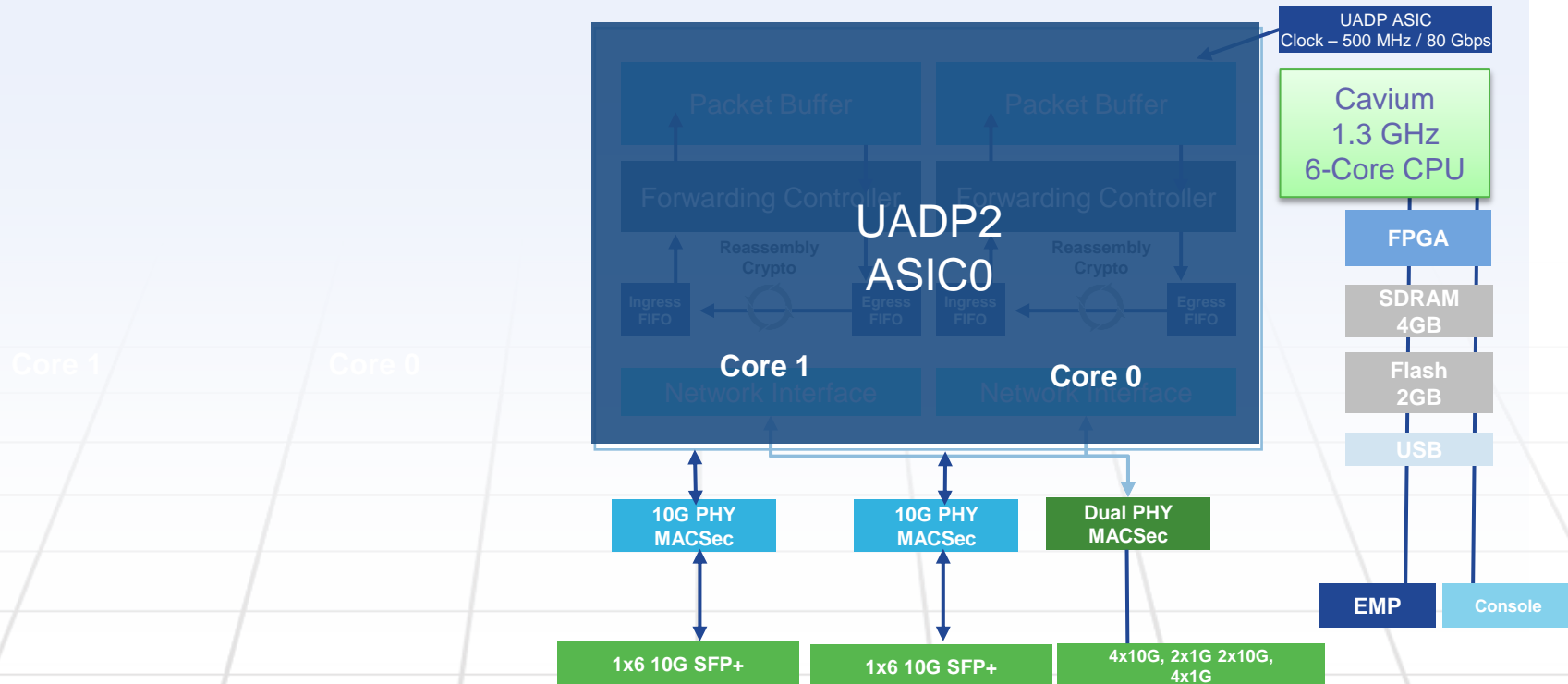
- Auto-LAG for APs
- MACSec SW-to-Host (3850/3650)
- DAI with Static Host
- HW GRE for 3650 and 3850

Catalyst 3850: Under the Covers...



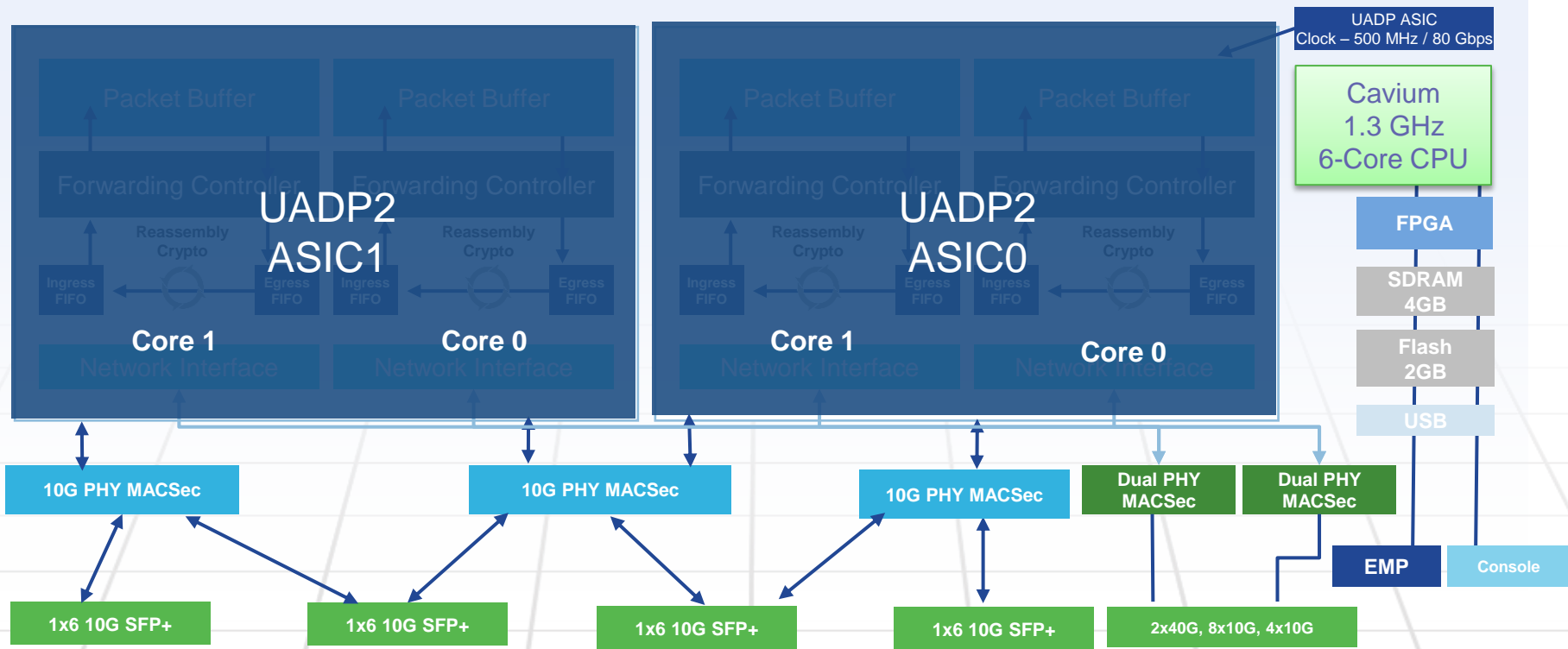
Catalyst 3850 SFP+ 12 Port – Block Diagram

480G STACK INTERFACE



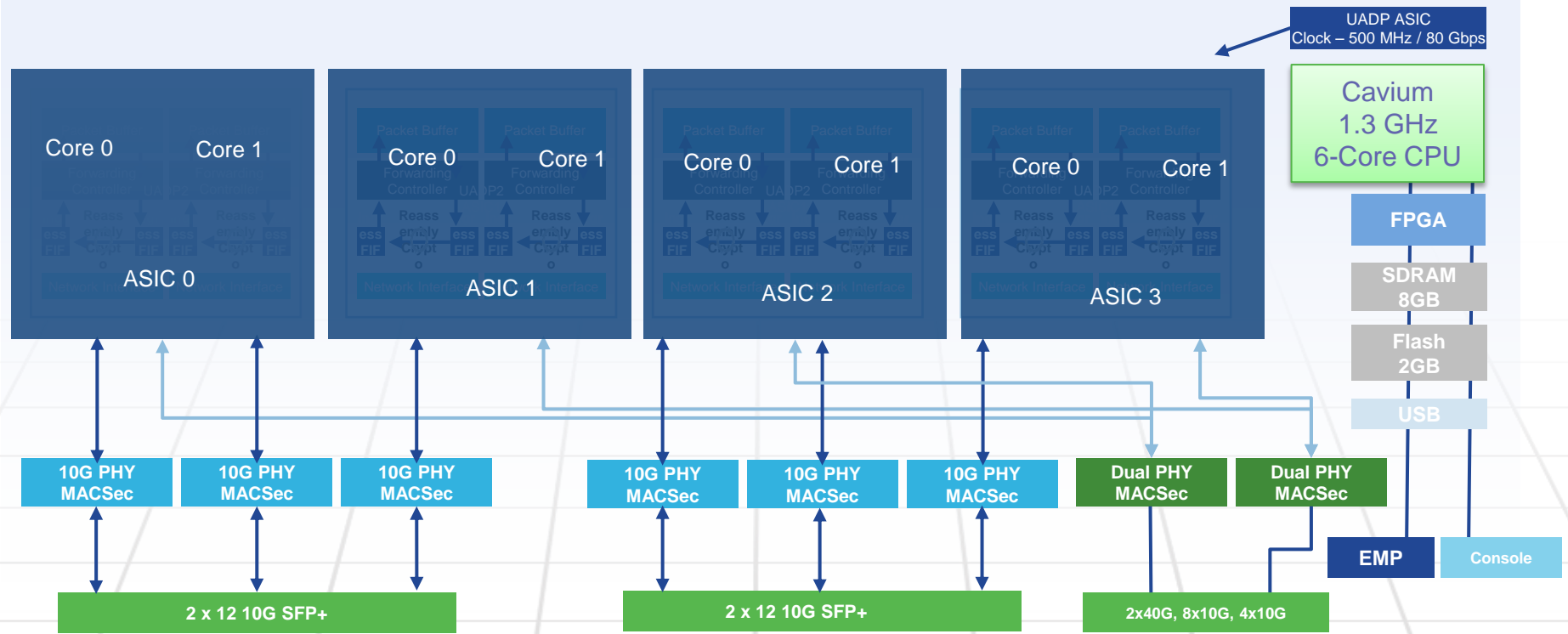
Catalyst 3850 SFP+ 24 Port – Block Diagram

480G STACK INTERFACE



Catalyst 3850 SFP+ 48 Port – Block Diagram

480G STACK INTERFACE



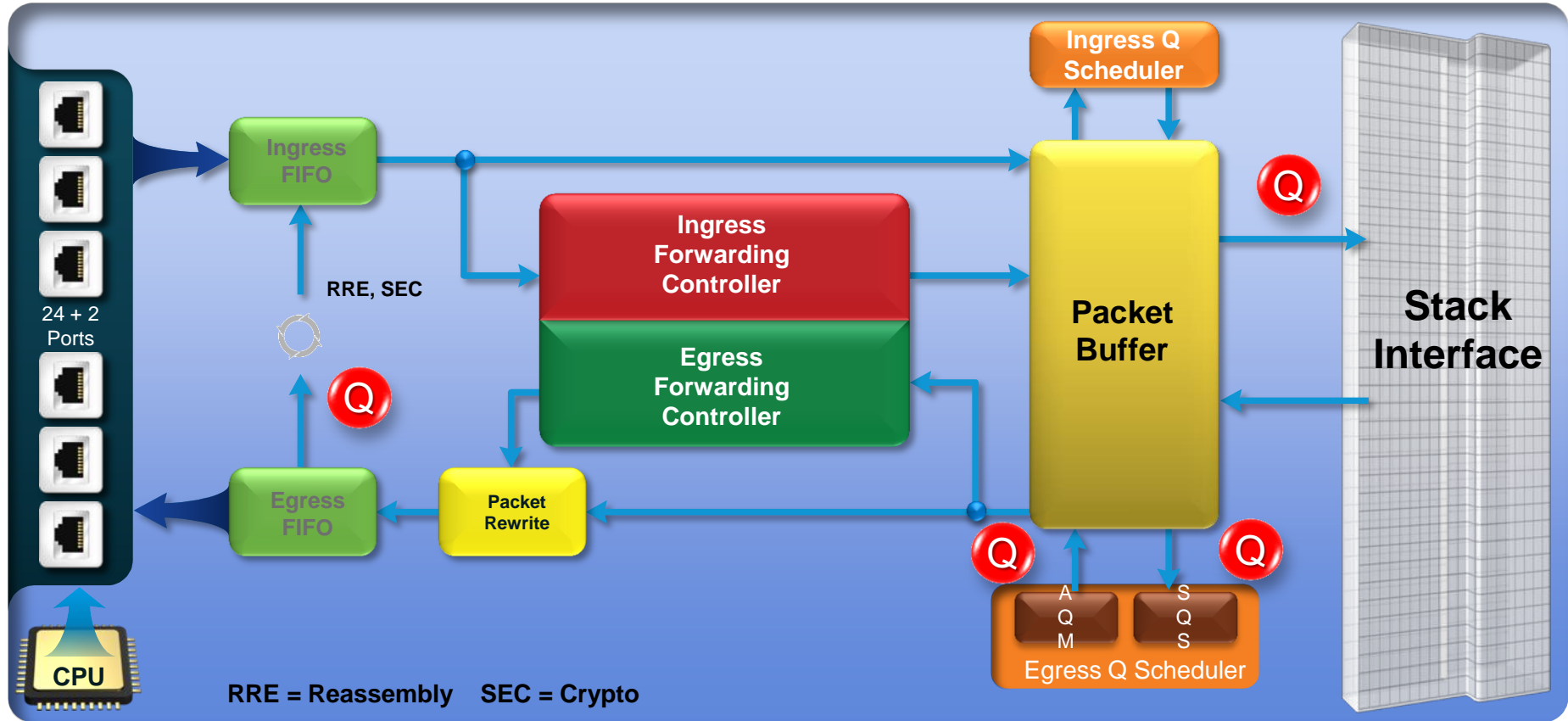
Number of ASICs in different versions of Switches



For Your Reference

Product Version	Number of ASICs/Cores	Clock Speed	Total Bandwidth Available (Duplex)
12 Port 10G 3850	1/2	500 MHz	160 G
24 Port 10G 3850	2/4	500 MHz	320 G
48 Port 10G 3850	4/8	500 MHz	640 G

Catalyst 3850 Block Diagram



C3850-XS 10G Family

Architecture Overview



Feature	C3850-12XS	C3850-24XS	C3850-48XS
ASIC(s)	1 UADP2	2 UADP2	4 UADP2
Bandwidth	160 Gbps	380 Gbps	640 Gbps
Throughput	228 Mpps	456 Mpps	912 Mpps
CPU	1.3GHz CN6335	1.3GHz CN6335	1.3GHz CN6335
Memory	4GB DDR3	4GB DDR3	8GB DDR3
Buffer (MB) per Port	1MB (12MB / 12p)	1MB (12MB / 12p)	1MB (12MB / 12p)
IPv4 Routes	24K (host) / 8K (routes)	24K (host) , 8K (routes)	24K (host) , 8K (routes)
IPv6 Routes	12K (host) / 4K (routes)	12K (host) , 4K (routes)	12K (host) , 4K (routes)
MAC Address	32K	32K	32K
Flexible NetFlow	48K	96K	192K
QoS & ACL	3K	3K	3K
Internal Flash	4GB eUSB+	2GB eUSB+	2GB eUSB+
Console	RJ45 / USB Type B	RJ45 / USB Type B	RJ45 / USB Type B
Management	RJ45	RJ45 / SFP	RJ45 / SFP
External Flash	USB Type A	USB Type A	USB Type A

NEW Catalyst 3850 10G Fiber Switches

“Top of Stack” Aggregation



3 lengths of Stack Cable: 0.5, 1 & 3 Meters

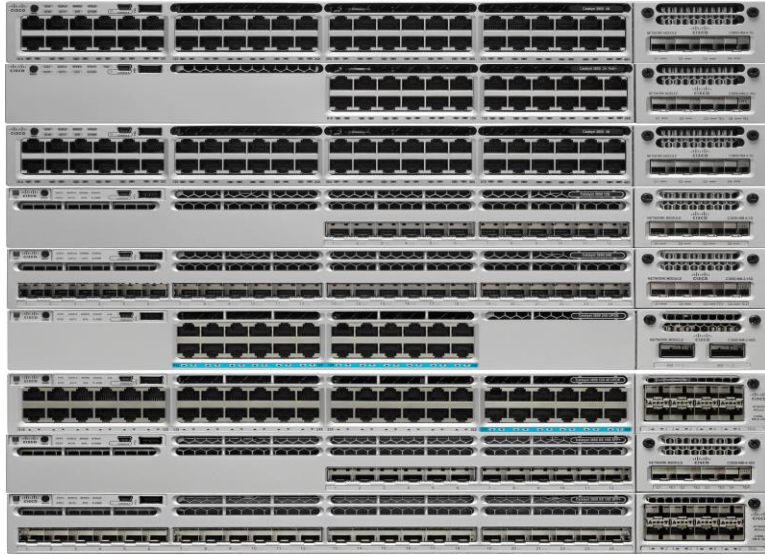


```
C3850.G12-G14-E24.STK# show module
Switch Ports  Model                Serial No.  MAC address  Hw Ver.   Sw Ver.
-----
 1    34  WS-C3850-24XS-L  FOC1849V05E 1ce8.5d28.d900 V00      03.07.01E
 2    16  WS-C3850-12XS-L  FOC1849V04U 547c.6966.0380 V00      03.07.01E
C3850.G12-G14-E24.STK#
C3850.G12-G14-E24.STK#
C3850.G12-G14-E24.STK# show switch
Switch/Stack Mac Address : 1ce8.5d28.d900 - Local Mac Address
Mac persistency wait time: Indefinite
           H/W  Current
Switch#  Role  Mac Address  Priority Version State
-----
*1      Active 1ce8.5d28.d900 1    V00  Ready
 2      Standby 547c.6966.0380 1    V00  Ready
```

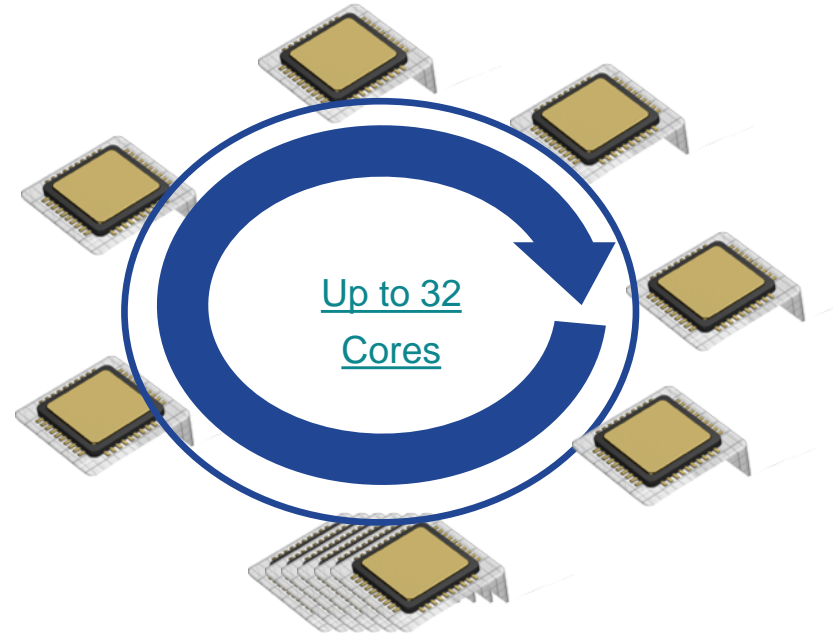
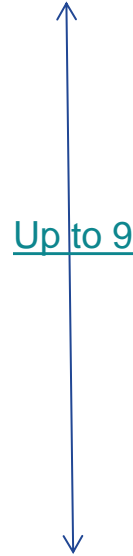
C3850.G12-G14-E24.STK#

C3850-12XS & 24XS are able to Stack with ALL existing C3850 1G SKUs

How many Can I stack together?



Enforced by Software



Limited in ASIC

Line Rate – 640G Switching Capacity

A Catalyst To Win



Catalyst Fixed Aggregation

The Next Generation Campus
Fixed Backbone is here!

Architectural Solutions

The Features, Scale and
Performance for every network need!

Nonstop Innovations

Strong hardware and software
roadmap with a lot more to come!



CISCO

TOMORROW starts here.