



Borderless Routing Update

ISR G2 Borderless Objectives



Video Conferencing

- Rich-media applications
- High performance
- Application optimization

Customer
Experience



Service Personalization

- Services “On-Demand”
- Customized Applications
- Cloud extension

Business
Innovation



Operational Excellence

- Greener technology
- Operational Simplicity
- Rapid ROI with Investment Protection

Lowest
TCO

ISR G2 Portfolio Positioning

Performance Availability Availability



Next Generation Integrated Services Routers

Under the Covers

Services Performance Engine (3900)

- Upgradeable engines
- **SPE-200 & SPE-250**

Multi-core Network Processor

- 5x- 7x performance increase

Multi Gigabit Fabric

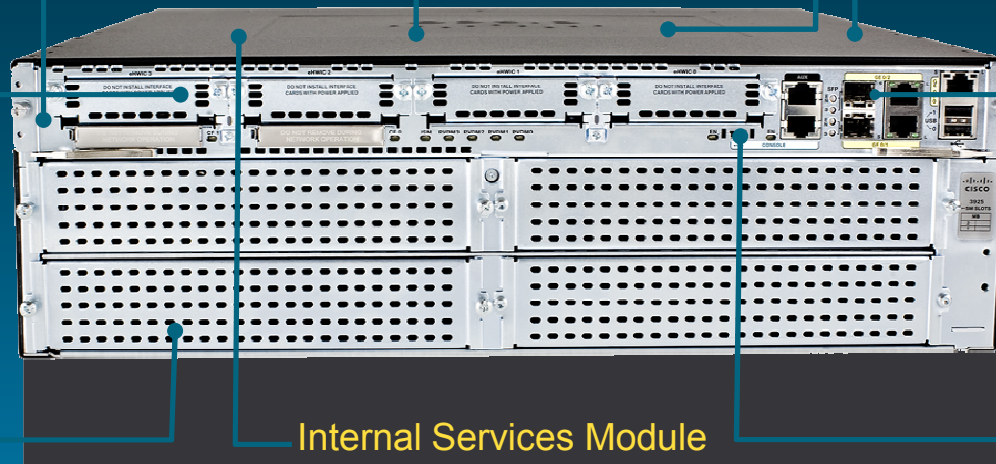
- Module to module communications
- Packet prioritization and shaping

NG DSP Modules

- Video ready DSP modules
- 4x increase in audio conferencing and transcoding
- Configurable power savings modes

EHWIC

- 2x performance increase
- HWIC/WIC/WVIC/VIC support natively
- EPoE capable



GE Ports

- 4 on 3900E
- 3 on 2911+
- SFP slots on 2921 and above

Service Modules

- 3x-7x increase in service module performance
- Existing NM support through adapter
- EPoE capable

Internal Services Module

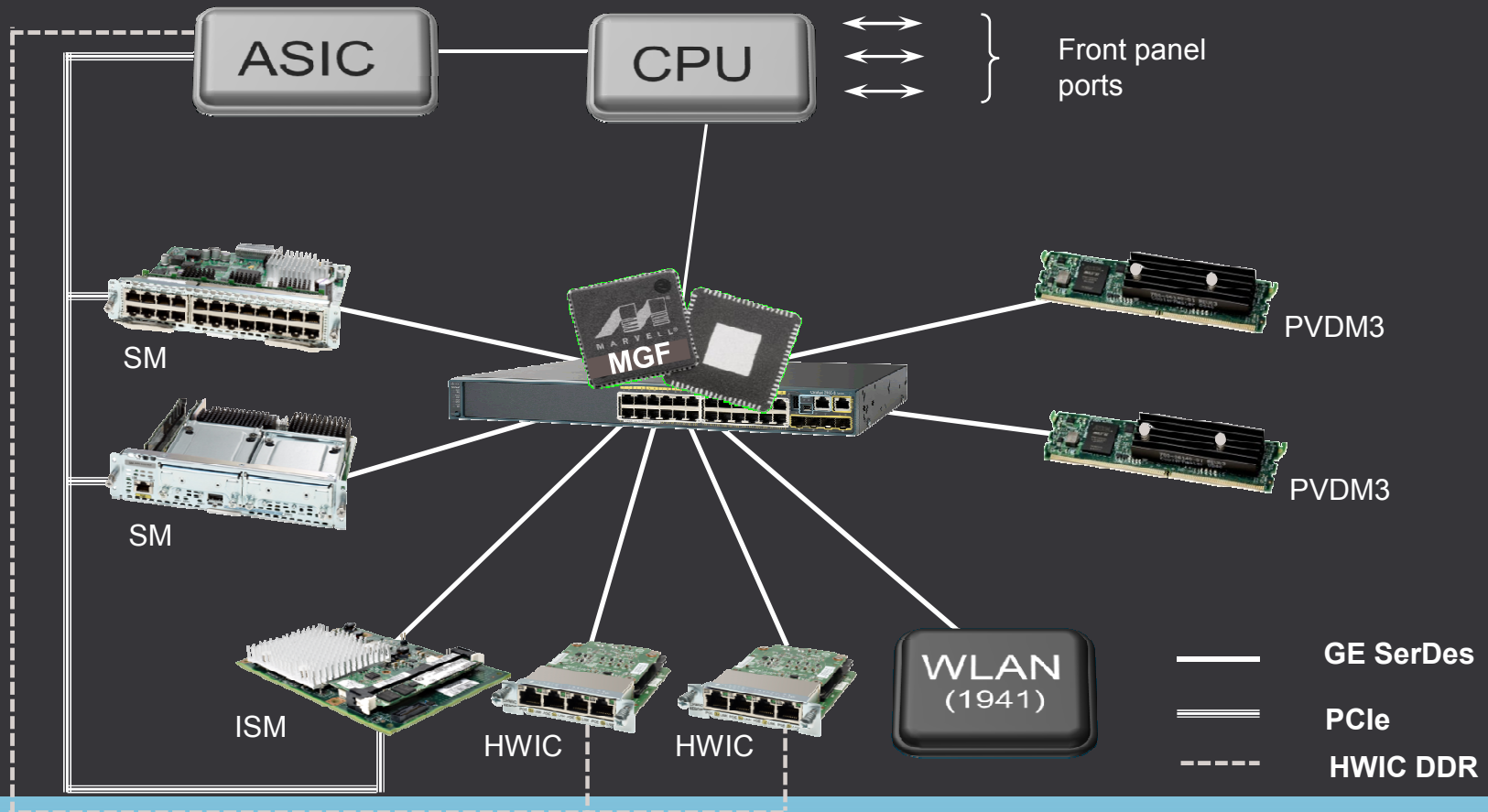
- 3x increase in service module performance
- Configurable power savings mode
- Not available on 3900E & 1941W

USB

- Console over USB
- Convenience storage
- Security credentials

Multi Gigabit Fabric (MGF)

A Layer 2 switch inside the system



Not all possible modules are shown

New Modules



- 4 & 8 Port EHWIC 10/100/1000 switch



- 3G HSPA-G HWIC, 3G HSPA-U EHWIC



- G.SHDSL EFM HWIC



- EHWIC-VA ADSL/VDSL2 Multimode



- SRE-V with ESXi

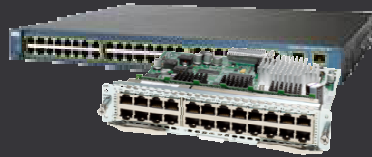


Windows



Red Hat Linux

New Features



- Smart Install - 15.1(3)T



- WAAS Express - 15.1(2)T



- UCS Express - 15.1(3)T



- MGF Switch Features – 15.1(3)T

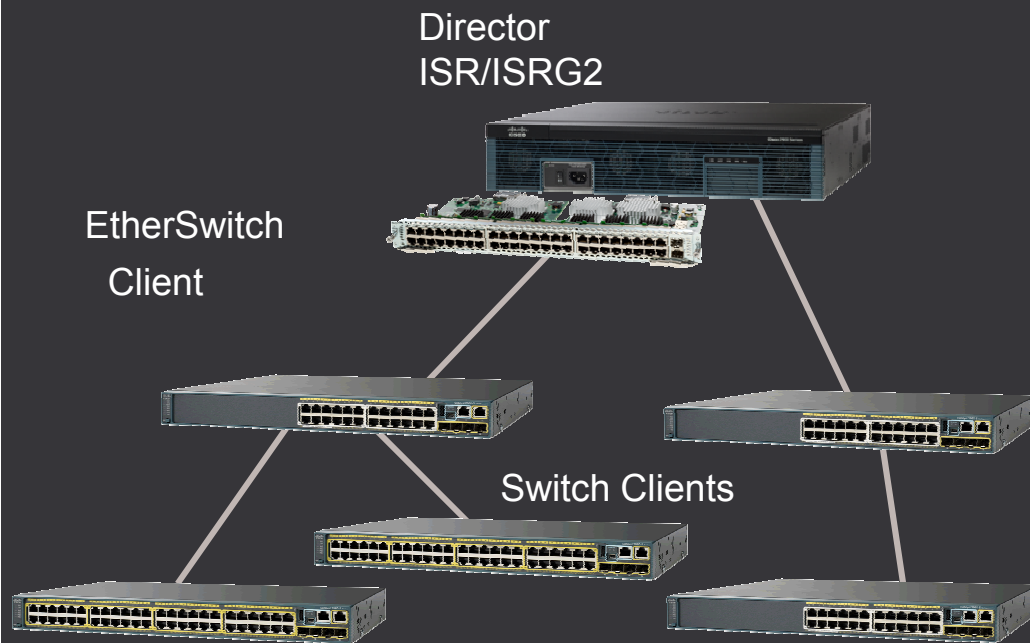
Smart Install

Smart Install adds intelligence in the ISR/ISR2 giving it the ability to Auto Image, Auto Config, Auto Backup and Auto Replace branch switches and EtherSwitch Modules

Procedures made simple enough, any employee can deploy/replace a Switch/EtherSwitch

Smart Install adds tools that reduce touch and promote ease of use between router and switch

Smart Install features do not interfere with current procedures or embedded management systems



Routers:

Director only - 15.1(3)T

Switches:

Client – 12.2(52)SE

Director - 12.2(55)SE

- Zero Touch Installation
- Zero Touch Upgrade
- Zero Touch Replacement

Director:

ISR2, ISR G1, Catalyst 3xxx series

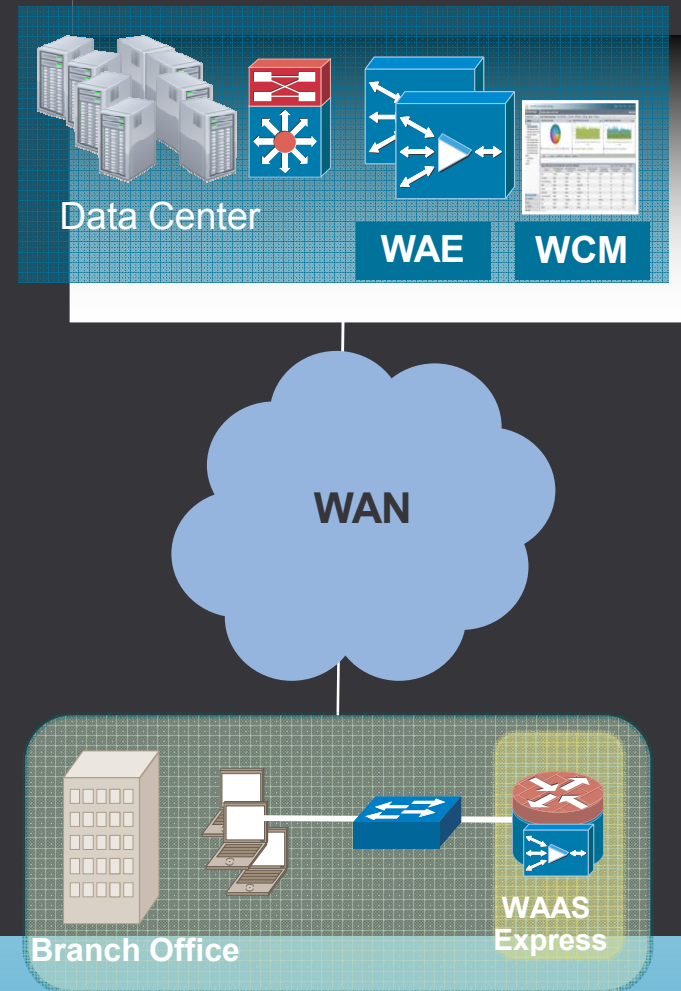
Mix and Match Clients:

Catalyst 3750, 3750-E, 3560, 3560-E, 2960, 2975

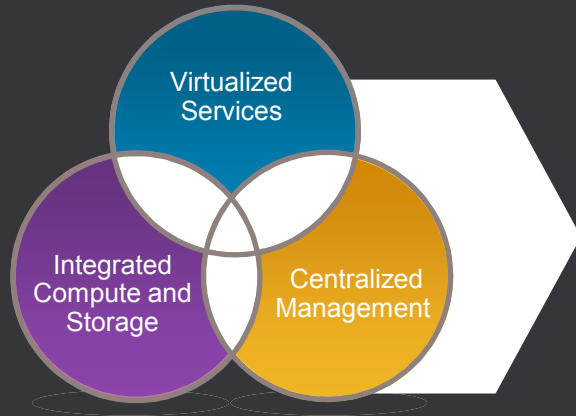
All NME and SM EtherSwitch modules

Cisco WAAS Express

- Introducing WAAS Express – An IOS based Integrated WAN Optimization solution
 - Extend WAN Optimization capabilities to the entire router portfolio
 - Leverage existing WAAS deployment
 - Low-cost solution for branch office or remote user
 - Fully Integrated inline offering with other router services
 - Offers integrated policy provisioning, monitoring, and, reporting
- Part of the ISR G2 family – reduces device footprint
- Easy branch deployment – no truck roll



Service Virtualization



Cisco Services Ready Engine

- De-coupled hardware and software
- Services Ready Engines with onboard storage
- Centralized deployment and management of services
- Open Architecture for Extensible applications

Any Service, Any Branch, Any Where



Network and
Collaboration
Services

Secure & Optimize Branch
Experience



(Network-aware Lean
Applications)



Industry Standard
Server
Virtualization

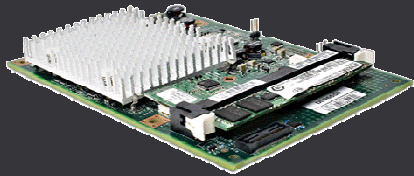
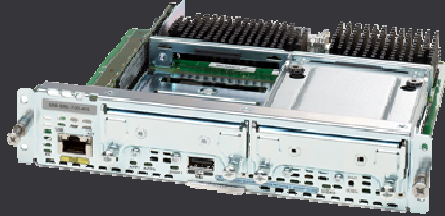
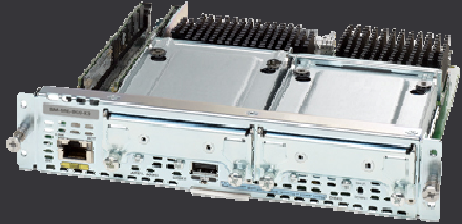
(Server Consolidation)



Cloud
Survivability

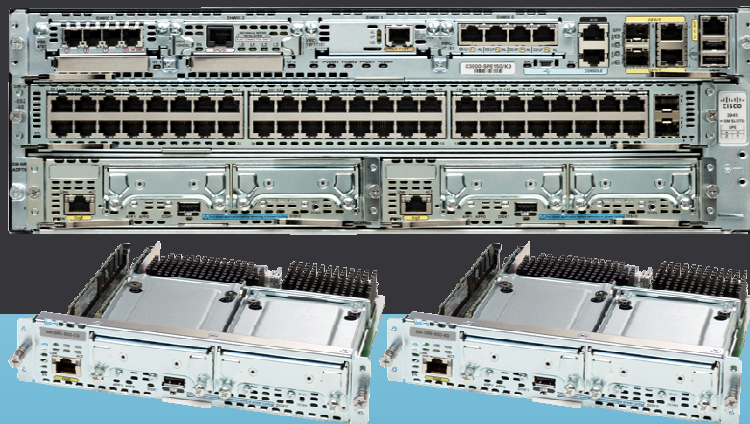
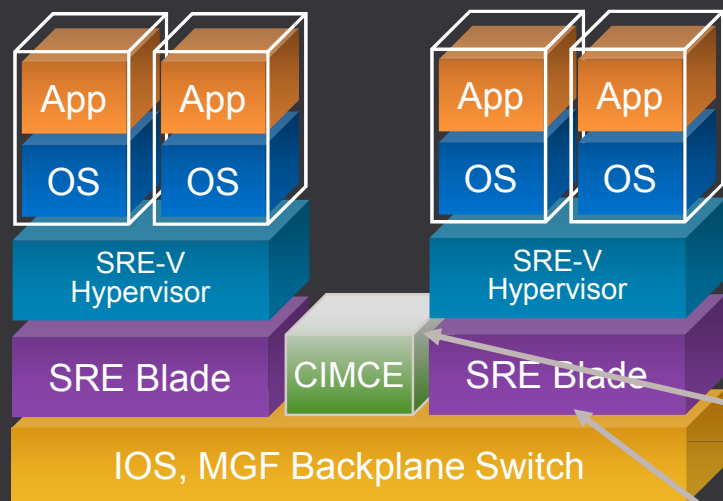
(Business Continuity)

Hardware Comparison Matrix

	SRE 300 ISM	SRE 700 SM	SRE 900 SM
			
Processor	Intel Processor 1.066 GHz (Single Core)	1.86 GHz Intel Core 2 Duo (Single Core)	1.86 GHz Intel Core 2 Duo (Dual Core)
Maximum Memory	512 MB	2 GB	4 GB
Maximum Storage	4 GB Compact Flash	500 GB SATA HDD	2 x 500 GB SATA HDDs w/ RAID 0/1
Ports	<ul style="list-style-type: none"> 2 Internal GE ports 	<ul style="list-style-type: none"> 2 Internal GE ports 1 External GE port 1 External USB port 	<ul style="list-style-type: none"> 2 Internal GE ports 1 External GE port 1 External USB port
Security			Cavium Nitrox Security Co-processor

Cisco UCS Express Components

Simplifying Lean Branch Office Infrastructure



Platform for Edge Applications

- Microsoft Windows Server certified

Server Virtualization

- Cisco SRE Virtualization powered by VMware vSphere Hypervisor™ (ESXi)

Dedicated Blade Management

- Cisco Integrated Management Controller
- Consistent management for UCS family

Multipurpose x86 Blades

- Cisco Service Ready Engine modules
- House up to 4 server blades in ISR G2

Single-device Network Integration

- House all devices in ISR G2 chassis
- Multi-Gigabit Fabric backplane switch

Cisco 880VA Series

Multi-mode DSL 886VA, 887VA Platforms

Over POTS and ISDN



Customer Benefits

- Multimode DSL (VDSL2 and ADSL2/2+) supported on a single WAN interface
- Business continuity with primary and backup connections
- Easy deployment with Cisco Configuration Professional
- Centralized management
- Universal software image for easy expansion with software activation

Secure Mobility Platform

- Managed CPE
- Very small offices, Cisco Virtual Office (Teleworkers)
- Up to 10 Mbps WAN Access with Security
- Fixed configurations:
Pick your:
 1. WAN interface(s)
 2. 802.11 Wireless (Y/N)
 3. Backup Interface

The Making of The Broadband Wireless ISR

Extending the Network to the Micro Branch



Small Retail
Branches in
Emerging &
Rural Markets



Outdoor ATM
& Kiosks



Remote
Telemetry



Outdoor
Digital Signage



Enterprise
Vehicles

3.5/3.7G Wireless WAN



Broadband Wireless ISR

SMALL FOOT
PRINT

3.5G & 3.7G
PHASE II (4G & 802.11)

HARDENED
OPTION

SMS/GPS
SUPPORT

DUAL USIM
SUPPORT

OTA FW
UPGRADE

3G MIB & OUT OF BAND
MNGMT

ASYNC SERIAL &
FE LAN PORTS

Key Attributes for Remote ATM Machine:

- 98.6% Uptime (~ 5 days downtime per year)
- Monitor State of Health – Max 10 min Cycle Time to ALIVE
- Size, Fan less, Extended Temperature, Dust Protection
- 5 Year Life Cycle

Introducing the Cisco 819 Series Broadband Wireless ISR

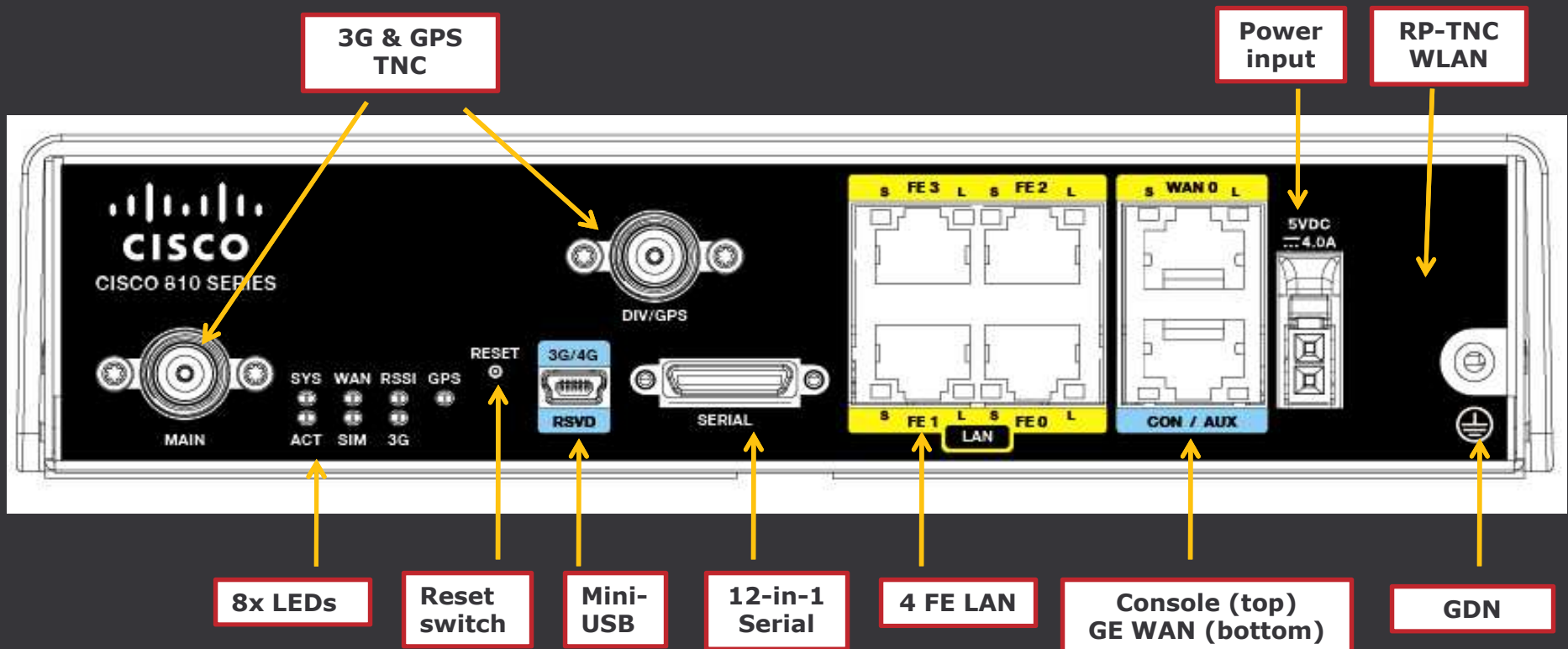


	819	819H	819W	819WH
3G/4G WAN	EVDO or HSPA+	EVDO or HSPA+	EVDO or HSPA+	EVDO or HSPA+
3G Antenna	External/Diversity	External/Diversity	Embedded & External/Diversity	Embedded & External/Diversity
WLAN (a/b/g/n)	no	no	2.4 or 5.0 GHz	2.4 or 5.0 GHz
Unified Support (Licensed Option)	no	no	yes	yes
Wifi Antenna	no	no	External	External
Onboard WAN Ports	1 GE	1 GE	1 GE	1 GE
12-in-1 Serial (Licensed Option for Sync WAN)	1	1	1	1
Onboard LAN Ports	4 FE	4 FE	4 FE	4 FE
GPS / SMS	yes	yes	yes	yes
IOS (Universal Image)	15.1(4)M &15.2(1)T	15.1(4)M &15.2(1)T	15.1(4)M &15.2(1)T	15.1(4)M &15.2(1)T
Reset to Safe/Golden IOS & Config	yes	yes	yes	yes
WAAS Express (Option)	TBD	TBD	TBD	TBD
Hardened (-20/60C / IP41)	no	yes	no	yes
Power Supply	External	External	External	External
Dimensions (HxDxW)	178x173x44 mm	178x173x44 mm	178x173x44 mm	178x173x44 mm
Estimated Availability	Q3 2011	Q3 2011	Q4 2011	Q4 2011

Form Factor of 819

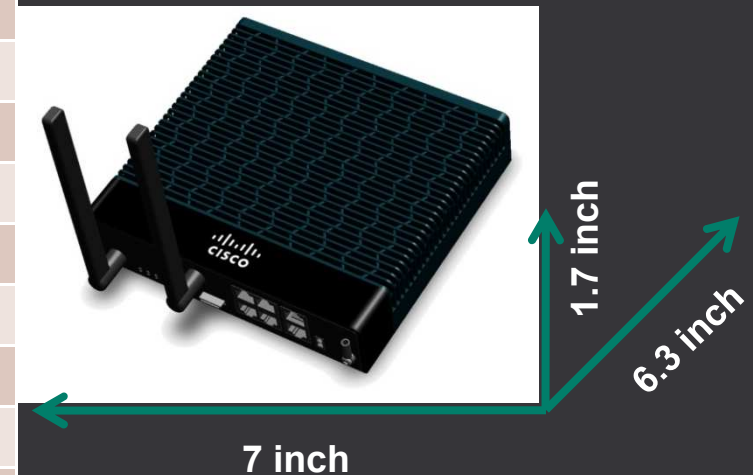
Hardened SKUs:

- Industrial Grade Components
- Extended Temperature: *-20C up to + 60C*
- Environmental Protection: *95% Humidity, IP 41 for Splash Water and Pollution 3 (Dust)*
- Shock and Vibe: *MIL-STD-810, EN-50155, SAEJ1455, & ENG3396*
- Mounting Options: *Din-Rail, Floor, Wall Mount*



Enterprise IOS based 3G/4G Standalone & MiFi

Features	3G Standalone - C812G	3G MiFi – C812MiFi
3G WAN	EVDO Rev A / HSPA / HSPA+ Rel 7	EVDO Rev A / HSPA / HSPA+ Rel 7
3G Antenna	Embedded / External	Embedded / External
3G Diversity Antenna	Embedded / External	Embedded / External
WiFi (a/b/g/n)	NO	2.4 GHz or 5.0 GHz
WiFi Antenna	NO	Embedded
Unified WiFi	NO	YES
Onboard WAN Port	1 GE	1 GE
Standalone GPS	YES	YES
GPS Antenna	Embedded / External	Embedded / External
Business SMS	YES	YES
Operating System	IOS	IOS
Safe/Golden OS/Config	YES	YES
Power Supply	External	External
Power over Ethernet	YES	YES
Dimension (HxDxW)	7.0x6.3x1.7 inches	7.0x6.3x1.7 inches
Mounting Options	Wall / Ground	Wall / Ground
FCS	2H CY 2011	2H CY 2011



Enterprise Class
Multimode 4G
Standalone & 4G MiFi
will be available during
1H CY 2012



ASR 1000

Where the ASR 1000 Fits

Enterprise & SP Edge Routers

Managed Services CPE &

High-End Branch Office Routers

Managed L2/L3 VPN, Integrated Services, Application Recognition

Performance and Scalability

ISR G2 Series

7200 Series

ASR 1000

7600 Series

ASR 9000

2.5G – 160G Per System
High-End Branch Office
WAN Edge, Secure WAN
Internet Edge, DCI
Broadband, Route Reflector,
Distributed PE, Hosted Firewall
SBC/VoIP

40G per Slot
Carrier Ethernet
IP RAN
Mobile Gateways
SBC/VoIP
Broadband
Vidmon

200G per Slot
Carrier Ethernet
+ BNG
IP RAN
L2/L3 VPNs
Vidmon

Cisco ASR 1000 Series Routers: Overview

2.5 Gbps to 40Gbps Range - designed today for up to 160 Gbps in the future

Compact, Powerful Router

- Line-rate performance 2.5G to 40G today – 100G+ future - with services enabled
- Investment protection with modular engines, IOS CLI and SPAs for I/O
- Hardware based QoS engine with 128K queues

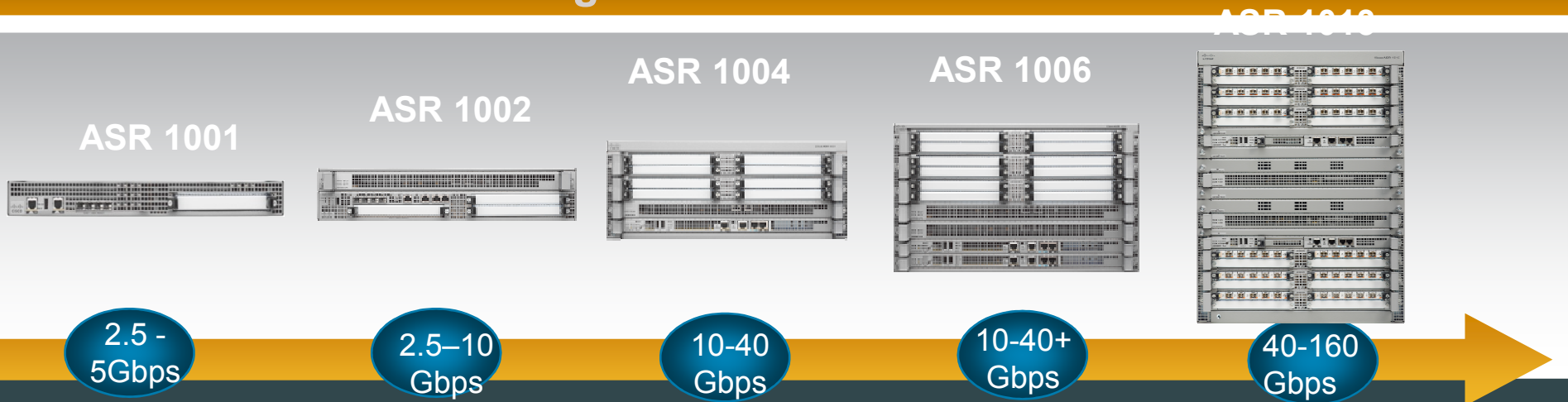
Business-Critical Resiliency

- Fully separated control and forwarding planes
- Hardware and software redundancy
- In-service software upgrades

Instant On Service Delivery

- Integrated firewall, VPN, encryption, NBAR, CUBE-ENT, CUBE-SP
- Scalable on-chip service provisioning through software licensing

Embedded High-Performance Resilient Services



ASR 1000 Platform Overview



	ASR1001	ASR1002	ASR1004	ASR1006	ASR1013
SPA Slots	1-slot/IDC	3-slot	8-slot	12-slot	24-slot
ESP Slots	Integrated	1	1	2	2
RP Slots	Integrated	Integrated	1	2	2
SIP slots	Integrated	Integrated	2	3	6
IOS Redundancy	Software (8- GB)* No ISSU	Software (4-GB) No ISSU	Software (4-GB) No ISSU	Hardware ISSU	Hardware ISSU
Built-in GE	4	4	N/A	N/A	N/A
Height	1.75" (1RU)	3.5" (2RU)	7" (4RU)	10.5" (6RU)	22.7" (13RU)
Bandwidth	2.5/5.0 Gbps BW upgradeable via license	5-10 Gbps	10-40 Gbps	10-40 Gbps	40 Gbps
Maximum output Power	400W	470W	765W	1275W	3200W
Airflow	Front to back	Front to back	Front to back	Front to back	Front to back

- ASR1001 default memory is 4GB and can be upgraded to either 8GB or 16GB (16GBDRAM is available as of 3.3S).

Cisco ASR 1001

Attractive Entry Level

Available
Since
Nov'10

Single-Height SPA Card Slot
Here: 5-Port 1GE SPA Is Plugged In



Management
Network Interface

4 Built-In GE Ports

Part Numbers	Description	Part Numbers	Description
ASR1001	ASR1001 chassis	ASR1001-HDD	ASR1001 chassis with built-in 160G hard disk drive
ASR1001-2XOC3PS	ASR1001 chassis with built-in 2 x OC3PS port card	ASR1001-4X1GE	ASR1001 chassis with built-in 4 x 1GE port card
ASR1001-4XT3	ASR1001 chassis with built-in 4 x T3 port card	ASR1001-8XCHT1E1	ASR1001 with chassis with 8 built-in channelized T1E1 ports
		FLS-ASR1001-5G	2.5-Gbps to 5-Gbps throughput on all ASR 1001 chassis at time of order

NOTE: This photo depicts ASR1001 without Integrated Daughter Card (IDC)

○ Points to location of 'Integrated Daughter Card' (IDC)

For all models and bundle SKU information, please refer to "Cisco ASR 1000 Series Aggregation Services Routers Ordering Guide" at: http://www.cisco.com/en/US/products/ps9343/prod_bulletins_list.html


Cisco 7200* - EoS Milestones

- Cisco ASR 1000 Team partnered across Cisco on the EOS plans for 7200, 7301 and 7000CMN/port adapter products
- EoS Milestones
 - JULY-14-2011: Internal announcement
 - SEPT-30-2011: External announcement**
 - SEPT-29-2012: End-of-Sale -- Turn off orderability**
 - SEPT-29-2015: End of Software Maintenance.
After this date, no more planned rebuilds.
 - SEPT-29-2017: Last Day of Support**

*Does NOT cover 7200ubr product line. 7200ubr EoS will be handled separately – contact is Keqi Fan (keqfan)

Why migrate?

Benefits of ASR1000 vs 7200

7200 Software Based Platform		ASR 1000 QFP Based Platform
Up to OC3/STM1 for 7200	Performance	<ul style="list-style-type: none"> • Upto 10Gig forwarding with services • up to 20x performance improvements
Off the shelf CPU	Network processor	<ul style="list-style-type: none"> • QFP based multi-core processor (40 cores)
Single CPU shared by control and data traffic, SW based platform	Architecture	<ul style="list-style-type: none"> • Separation of control and data plane, dedicated HW for control and forwarding • No performance degradation with services enabled
Hardware Service Blades Required	Service Delivery	<ul style="list-style-type: none"> • Natively supported by QFP, no service blades • Services enabled with remote CLI provisioning, no truck roll • Pay as you grow with SW licensing
Redundant power, field upgradeable engines	High Availability	<ul style="list-style-type: none"> • HW redundancy with dual control and forwarding processor, ISSU • SW redundancy with same RP running two different IOS images , ISSU
IOS CLI 7000 Port Adapters for I/O connectivity	Investment Protection	<ul style="list-style-type: none"> • Scale control and data plane separately, T3 to 10Gig in single platform • IOS CLI, no additional training • I/Os purely SPA based, shared with 7600, GSR, CRS, Cat6K

Up to 20x higher performance + investment protection
 Very attractive entry pricing with ASR1001 at \$22k List

Why migrate?

Details on Migration Paths

Existing Platform Deployment Scenario	Customer's New Requirements	Most likely ASR 1000 Platform Migration Path
7200 WAN/VPN Aggregation or Enterprise Edge	Scaling, IPv6, IPSEC VPN, Trustsec, HQoS, PCI Compliance, SIP Trunking, AVC, DDoS Prevention, Video / Multicast	(Dependant on Existing Platform Configuration) ASR 1001, ASR 1002
7200 Campus or Regional HQ		CUBE-ENT, IPSEC VPN ASR 1001, 1002, 1004, 1006
7200 Broadband Aggregation	Scaling subscribers, IPv6, HQoS, VOIP, AVC, DDoS Prevention, Video / Multicast	ASR 1006, ASR 1013
7200 SP Edge	Scaling subscribers, IPv6, HQoS, SIP Trunking, LI, AVC, DDoS Prevention, Video / Multicast	ASR 1006, ASR 1013
7200 Route Reflector		ASR 1001, 1002, 1004, 1006

Thank you.

