



The Borderless Network The Integrated Services Routers Generation 2 **Transforming your Branch Experience**

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Channel SE

The Transformation: The World Is Our New Workspace



The BORDERLESS NETWORK

A Next Generation Architecture to Deliver
the New Workspace Experience

Borderless Branch

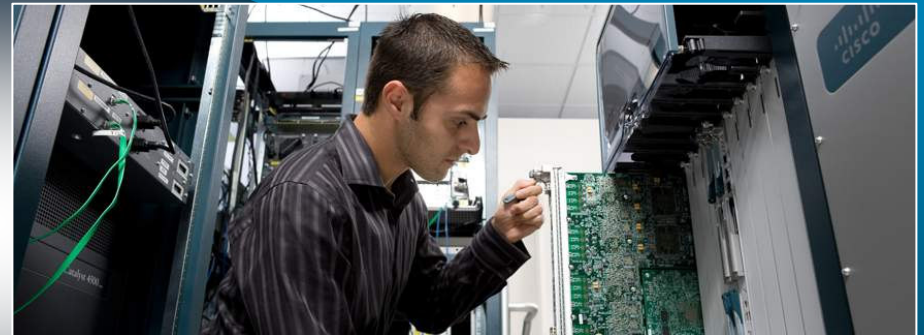
17% Growth Projected by 2010

Workspace Experience



- Drastic increase in video adoption. 75% organizations strive for increased productivity via video

Operational Efficiency



- Centralized Data and Distributed Interactions are driving operational simplicity, cost savings and ROI

Branches Are the Windows to Customer Experience



Bank



Retail Store



Clinic



Classroom

Borderless Branch with ISR G2



Video Conferencing

- Rich-media applications
- High performance
- Application optimization

Customer
Experience



Service Customization

- Services "On-Demand"
- Customized Applications
- Cloud extension

Business
Innovation



Operational Excellence

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

Lowest
TCO



Integrated Services Routers Generation 2 Overview

Introducing: Cisco Integrated Services Router Generation 2

Performance, Scalability, Availability

860, 880, 890



1941, 1941W



2901, 2911,
2921, 2951



3925, 3945



Virtual Office



Secure Mobility



Customizable Applications



Secure Collaboration



Scalable Rich-Media Services



← Enhancing the Customer Experience →

Next Generation Integrated Services Routers

Under the Covers

Services Performance Engine (3900)

- Upgradeable with newer engines in the future

Multi-core Network Processor

- Up to 5x performance increase

Multi Gigabit Fabric

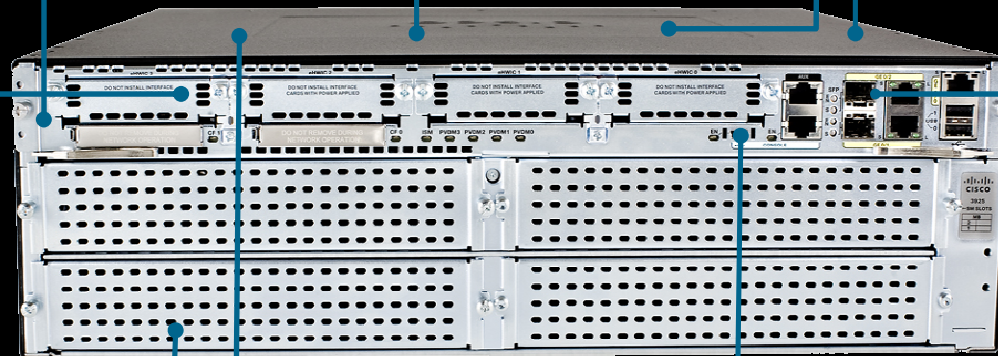
- Module to module communications
- Packet prioritization and shaping

NG DSP Modules

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

EHWIC

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



GE Ports

- Plus GE ports (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
- 802.11n Option on 19xx

USB

- Console over USB
- Convenience storage
- Security credentials

Cisco 1900 Series

Integrated Services Routers



	1941W	1941
SM Slots	0	0
ISM Slots	Fixed 802.11n Radio	1
EHWIC Slots	2	2
Onboard WAN Ports	2 GE	2 GE
Onboard DSP Slots	0	0
Default Flash	256 MB	256 MB
Default DRAM	512 MB	512 MB
Form Factor	2RU	2RU

Secure Mobility Platform

- 25Mbps WAN Access with Services
- Factory selectable Integrated wireless 802.11n option
- Desktop form factor with Double Wide HWIC Support

Cisco 2900 Series

Integrated Services Routers



	2951	2921	2911	2901
SM Slots	2	1	1	0
ISM Slots	1	1	1	1
EHWIC Slots	4	4	4	4
Onboard DSP Slots	3	3	2	2
Onboard WAN Ports	3 GE (1 SFP)	3 GE (1 SFP)	3 GE	2 GE
Default Flash	256 MB	256 MB	256 MB	256 MB
Default DRAM	512 MB	512 MB	512 MB	512 MB
Form Factor	2RU	2RU	2RU	1RU

Secure Collaboration Platform

- Up to 75Mbps WAN Access with Services
- Video-ready DSP support
- Increased service density with Second Services module Slot
- 12 Inch Depth on 2911

Cisco 3900 Series

Integrated Services Routers



	3945	3925
SM Slots	4	2
ISM Slots	1	1
EHWIC Slots	4	4
Onboard DSP Slots	4	4
Field Upgradeable Motherboards	SPE-150	SPE-100
Integrated Redundant PS	Yes	Yes
Onboard WAN	3GE (2 SFP)	3GE (2 SFP)
Default Flash	256MB	256MB
Default DRAM	1 GB	1 GB
Form Factor	3RU	3RU

Scalable Rich-media Services Platform

- Up To 150Mbps WAN Access With Services
- Upgradeable services performance engine (SPE) for future expansion
- Configurable dual Integrated Redundant Power supplies
- 2x Default Memory

Introducing The Multi Gigabit Fabric (MGF)

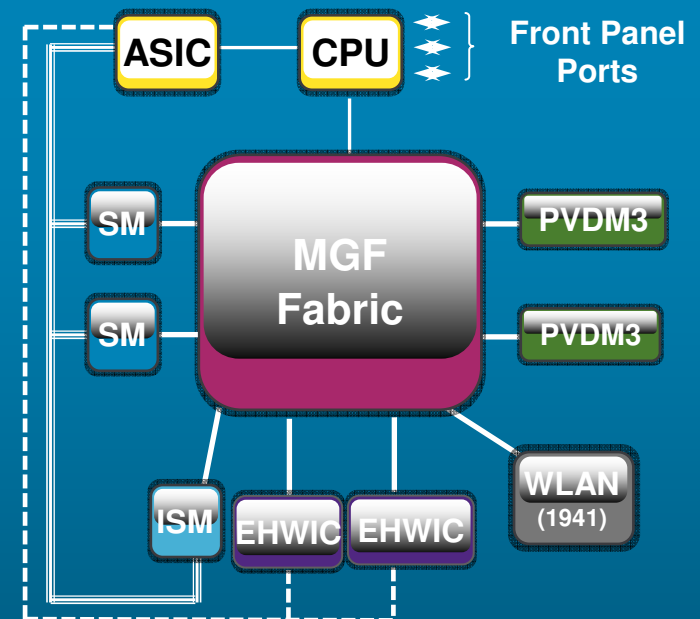
- Superior scalability by providing direct high-performance connectivity between services and modules

Provides connectivity between EHWICs, PVDM3s, SMs and ISMs through the backplane

- Offload the CPU when providing connectivity to internal modules or between services

There will be no CPU involvement when providing the service integration and traffic redirection as mentioned above

- Legacy interface modules do not benefit from the MGF and connect directly to the system CPU

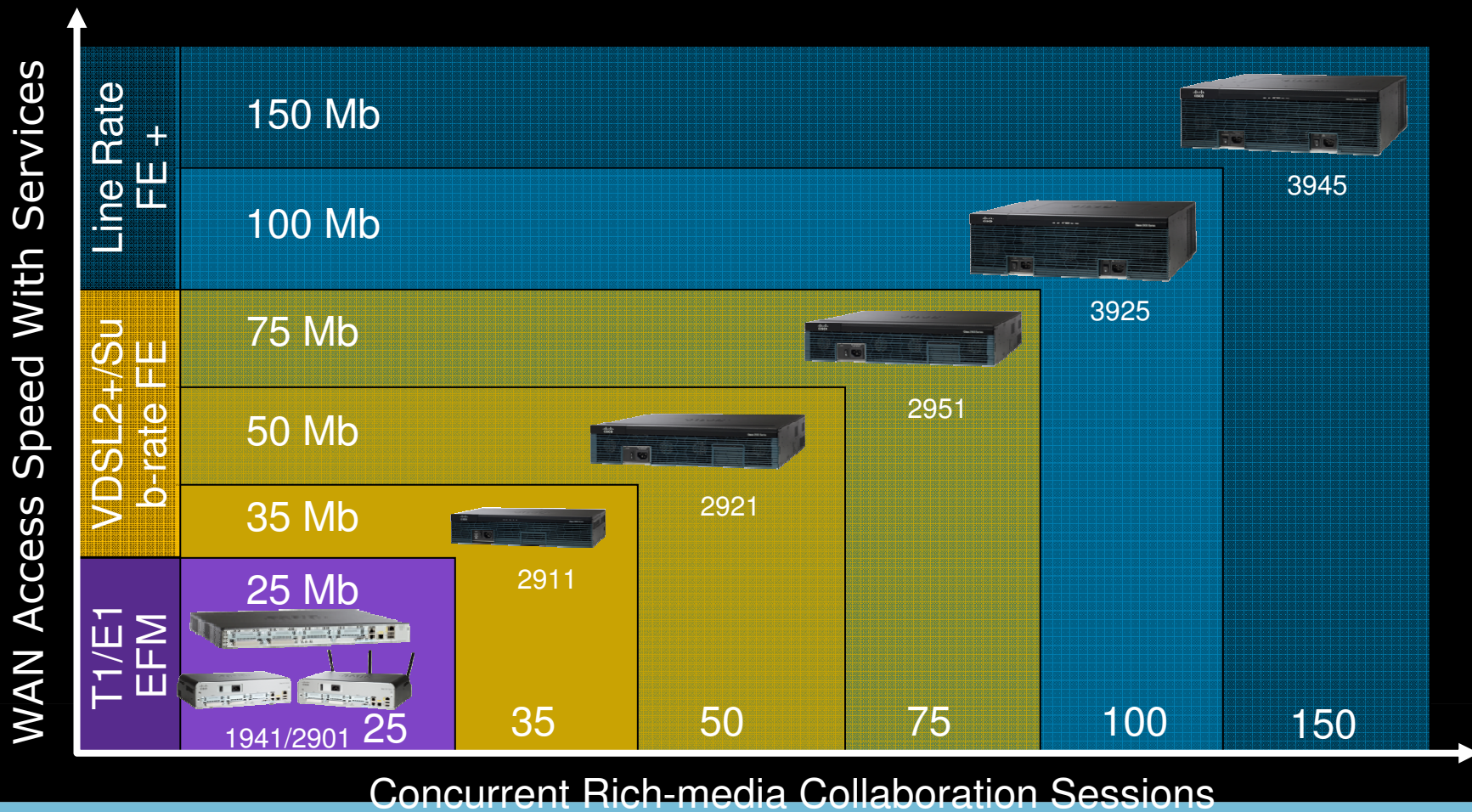


— GE Serdes
= PCIe
-- HWIC DDR

Note: Not all possible modules are shown

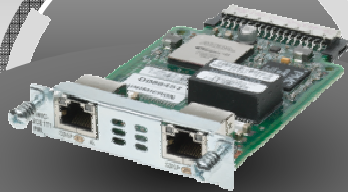
ISP C2 Performance Positioning

WAN Access and Collaboration

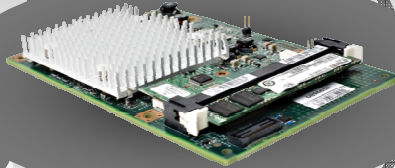


Service Modules and Interface Cards

Interface Cards
(WAN or LAN)



Internal Module for
Running Services
That Don't Require
Interface Ports,
Dedicated CPU
and Memory

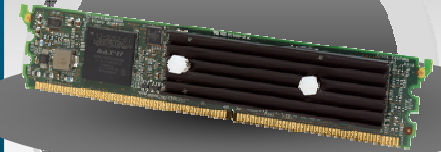


Independent CPU
and Memory for
Hosting Services *or*
High Density
Interface Ports.

Examples: Wireless LAN
Controller, WAN
Optimization, Etherswitch
Module



High Density
Rich-Media Voice
and Video DSP
Modules



EHWIC

Enhanced High Speed
WAN Interface Card

ISM

Internal Service
Module

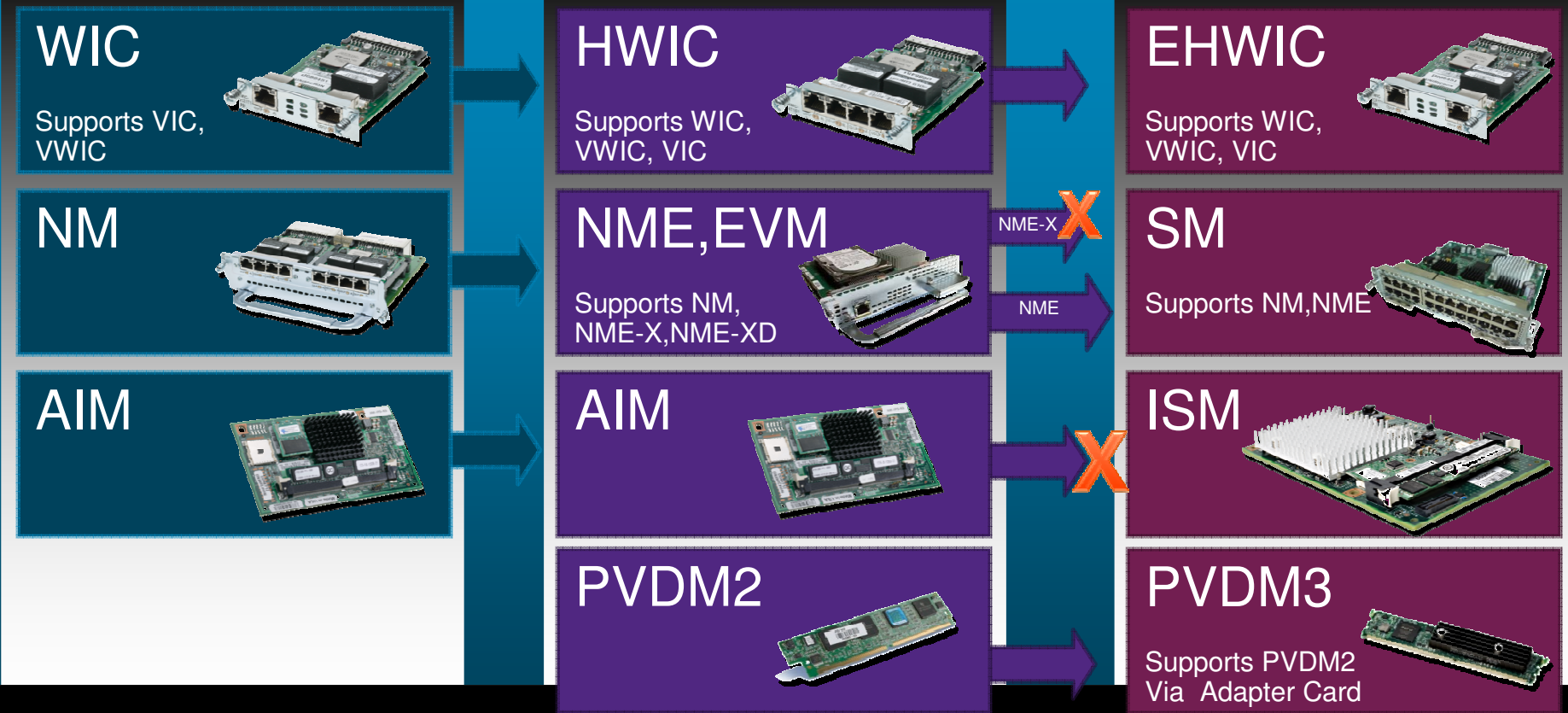
SM

Service
Module

PVDM3

Packet Voice/
Data Module

Platform Module Slot Evolution



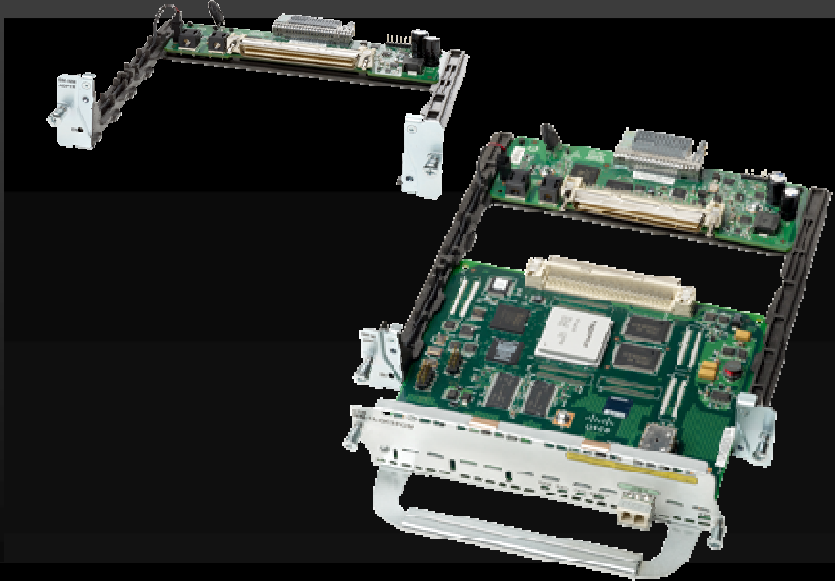
Pre-ISR

ISR

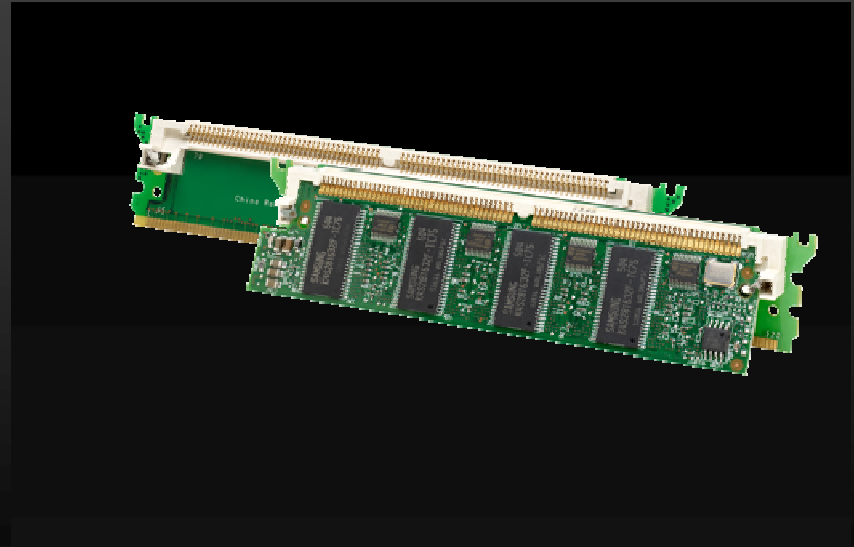
ISR G2

Adapters

- Maximize investment protection, while allowing for platform evolution
- Provide maximum interface coverage at platform FCS

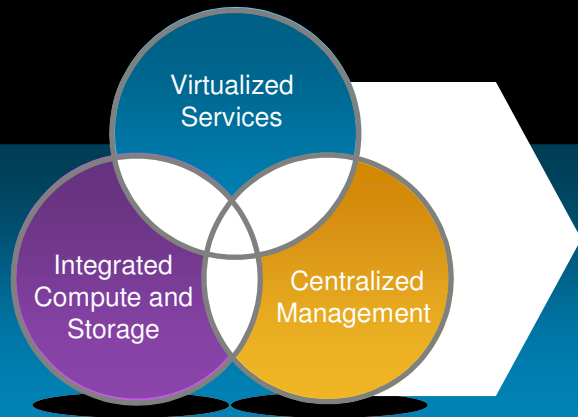


**NM to
SM Adapter**



**PVDM2 to PVDM3
Adapter**

Service Virtualization



Cisco Services Ready Engine

- Service modules with integrated compute & storage in small, router integrated footprint
- Range of virtualized services and applications to meet branch needs
- Centralized deployment and management of services with flexibility to change without truck rolls

Any Service, Any Branch, Any Where



Network and
Collaboration
Services

Optimized Branch
Experience



Network-aware Lean
Applications



Industry Standard
Server
Virtualization

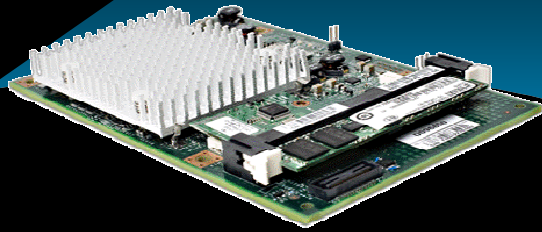
Server Consolidation



Cloud / Data
Center
Survivability

Business Continuity

ISR Generation 2 Services Ready Engines (SRE)



Internal Service Module (ISM)

Single Core x86
512MB RAM, 4GB Flash

Available on 1941 & above—Selected Services



Service Module (SM)

Dual Core High Performance x86
2-4GB RAM, 500GB-1TB HDD

Available on 2811 and above—Full Range of Services

Up to 7x Performance Improvement Compared to Previous Generation

Support for EnergyWise®—Reduces Power Consumption,

High Capacity Storage, RAID Capable and FRU Disks—Enable HA Deployments

Integrated Management, Troubleshooting, on-board HW Diagnostics Tool

Flexible “Service Ready” Deployment Model

- Deploy HW with router—SW can be deployed remotely saving truck roll costs
- Available Services: Application eXtension Platform, Cisco Unity Express
- Roadmap: WAAS, Wireless LAN Controller, Video Surveillance, Network Analysis, Server Virtualization, Windows Server

ISR G2 Services Portfolio

Network and Security Services

Collaboration Services

Compute Services and Applications

Network Services

Network and Physical Security

Unified Communications

Application Infrastructure

Industry Applications



Branch IT Infrastructure and Management

- Cisco Wide Area Application Services (WAAS)
- Cisco Wireless LAN Controller (WLC)
- Cisco Network Analysis Module
- Infoblox core network services on AXP



Secure, Protect, Compliance

- Cisco Video Surveillance
- Cisco Intrusion Prevention System



High-performance Communication and Collaboration

- Cisco Unity® Express (Voicemail, IVR)
- NICE Voice Recording on AXP
- Sagem Interstar Fax over IP on AXP
- SingleWire Informacast on AXP



Consolidate Branch Servers and Applications

- Cisco Application Extension Platform (AXP)
- Cisco Integrated Storage System
- Industry standard virtualization
- Windows Server



Customized Vertical Solutions

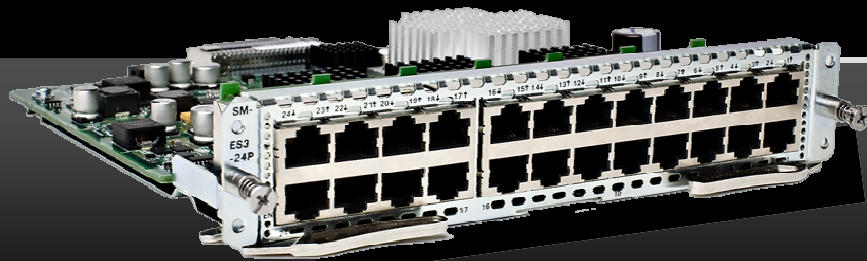
- Tiani Medical Data Exchange on AXP
- Global Protocols Skipware on AXP



Operational Excellence

New Enhanced EtherSwitch Service Modules (ESM)

- 16, 24, and 48 ports of GE or FE LAN
- Feature parity with Catalyst 3560-E and 2960
- Local Line-rate Layer 2/3 switching
- Supports Cisco EnergyWise for green IT
- Integration with MGF for LAN traffic performance optimization between modules, with no impact on CPU/WAN performance
- Integrates the latest enterprise switch features into the router, with the same features and configurations that are in the headquarters
- Industry Leading Power Over Ethernet
 - Enhanced POE (ePOE) Up to 20 watts per port
 - Takes advantage of 2900/3900 increased power levels offering up to 1040 watts per chassis
 - Per port autosensing and configuration of power levels
- Industry leading security and authentication
- Auto Smartports for plug and play port configuration

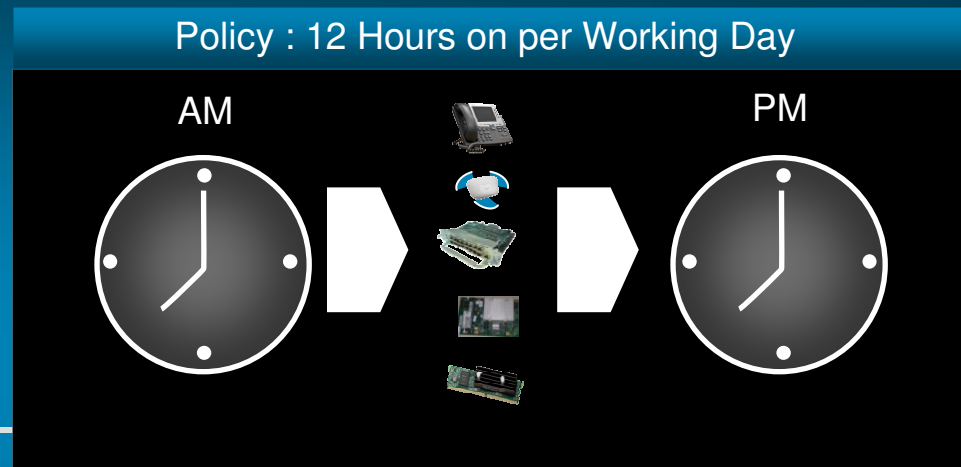


Gigabit Ethernet

Power Management Modules and Scenario

Support Available in:

- ISM (SRE)
- SM (SRE—EtherSwitch)
- PVD3M3
- EHWICs



	Hours	Days	Hours	Total
ON	Working days Mon-Fri	251 (x 12h)	3012	5748
OFF	Working days Mon-Fri	251 (x 12h)	3012	
OFF	Weekends	104 (x 24h)	2496	
OFF	Holidays	10 (x 24h)	240	
Total		365	8760	8760

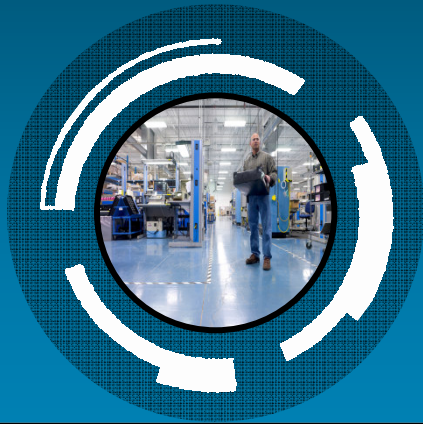
66% of the Time It Could Be Off



IOS Software Evolution

Evolution of Software Packaging and Activation

1990s



IOS

Many Images,
Feature Upgrades
Complex to Support

2004+



IOS Reformation

Introduced with ISRs
Reduced
Complexity/Images
Some SW Licensing

2010+

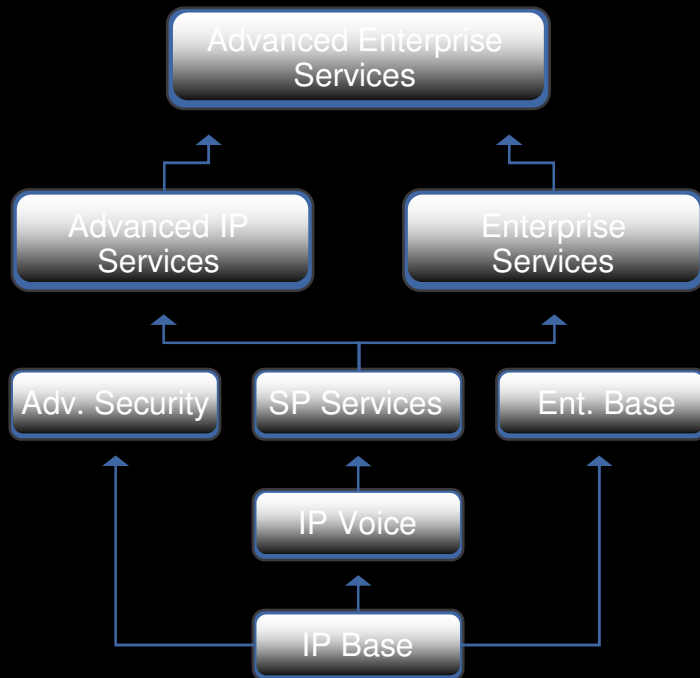


Licensed

Ease Of Ordering
Operational Simplicity
Services On Demand

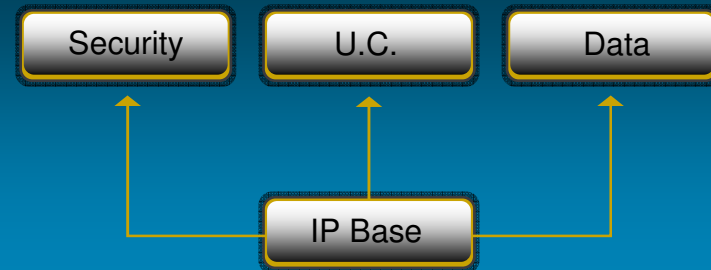
IOS Software Packaging Evolution Summary

Current



New

Universal Image



○ Simplified Software Management

A single IOS Universal Image will ship with all ISR G2 platforms

Four IOS enforceable licenses enable full suite of functionality that were previously offered in eight images

○ Less Costly Software Upgrades

IOS feature upgrades can be done by enabling a new license key, reducing the need for truck-roll to remote offices

○ Enable Development of New Software Based Business Models

Services on Demand—purchase upgrades as you need them via Cisco licensing

Summary Review

What's New with Cisco ISR G2?

Cisco ISR	➔	Cisco ISR G2
Up to 45 Mbps with Services Single X with 160GB	WAN Performance Network processor Service Module	
	Performance and Capacity	
	Onboard DSPs	
	Switch Modules	
	IOS Images	
	Service Delivery	
	Redundancy	
	Energy Efficiency	



Up to 5X the Performance. Similar price points.

The New Branch Experience

Integrated Services Routers Generation 2

Service Virtualization



Video-Ready



Operational Excellence



- Services on demand
- Customized services
- Cloud extension

- Rich media applications
- High performance
- Application optimization

- Greener technology
- Operational simplicity
- Investment protection



Business
Innovation



Customer
Experience



Lowest
TCO

