

# HP Networking

Новые правила сетевых технологий

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# Высокие требования к сетевой инфраструктуре

## Рост сетей

- Новые приложения
- Voice, video & data convergence
- Mobility and access
- Снижение стоимости
- Миграция 1G/10G

## Трансформация ЦОД

- Комплексные архитектуры
- Virtualization
- Time-to-service and management
- SAAS, PAAS, IAAS and cloud
- Непрерывность бизнеса
- Миграция 10G

## Требования IT

- Конвергенция
- Кризис
- IT and business alignment
- Green IT
- Management and reporting

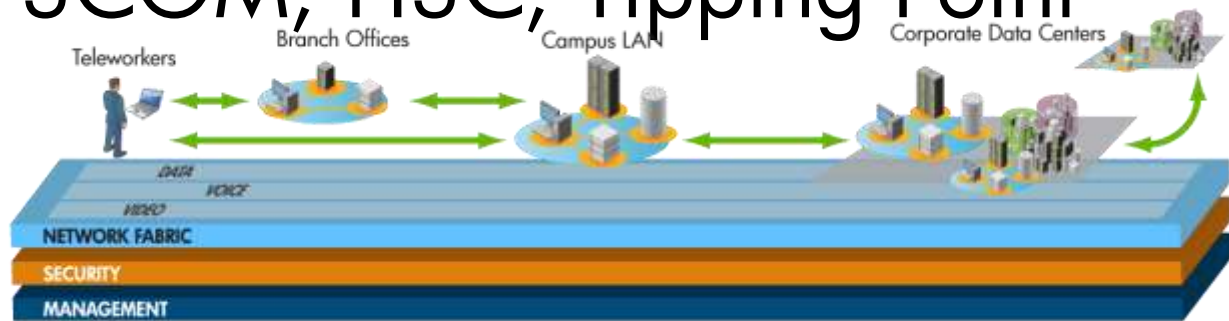
## Безопасность

- Complex and piecemeal
- Соответствие стандартам безопасности, incl. HIPAA, PCI,
- Zero-day защита
- Лучшие OpEx
- Интеграция в архитектуру

Текущие сетевые технологии - слишком сложные, дорогие, медленно трансформируемые, источник повышенной опасности



# Новый портфель решений HP Networking Procurve, 3COM, H3C, Tipping Point



Горизонты

Data Center Networking	Enterprise Routing	End-to-End Security	LAN Switching	Branch Office	Mobility	Unified Comms
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Продуктов  
линейки

A-Series	E-Series	V-Series	S-Series
For customers with large/ complex deployments seeking <b>advanced</b> , full featured networking technology	For customers seeking <b>essential</b> proven technology that's affordable and easy to use	For <b>value-</b> conscious customers seeking reliable and easy-to-use connectivity solutions.	For companies that require world-class network <b>security</b> solutions







Уровни  
решений

In-depth services across customer and technology lifecycles			
End-to-End Networking Solutions and CI	Security Solutions	Unified Comms and Collaboration	Integrated Business Solutions

# Портфель решений HP Networking

**A**

## ADVANCED

	<b>Modular Switches</b> HP A12500 HP A9500 HP A7500
	<b>Top of Rack Switches</b> HP A5810 HP A5820
	<b>Server Blade Switch</b> HP A6120
	<b>Fixed Port Switches</b> HP A5800 HP A5500 HP A5120 HP A36x0 HP A3100 HP Intellijack
	<b>Routers</b> HP A8800 HP A6600 HP A-MSR 50 HP A-MSR 30 HP A-MSR 20 HP A7000
	<b>WLAN</b> HP A-WX5004 Controller HP A-WA2xxx Access Points HP A3000 Wireless Switches HP A9000 Access Points HP A8760 Access Point HP A7760 Access Point
	<b>Management</b> IMC NNMi NA




**E**

## ESSENTIAL

	<b>Modular Switches</b> HP E8200 HP E5400 HP E4200
	<b>Fixed Port Switches</b> HP E6600 HP E5500G HP E4800G HP E3500G HP E2910G HP E4500G HP E25x0G HP E4200G HP E5500 HP E3500 HP E4500 HP E2610 HP E4210 HP E2810 HP E25x0
	<b>WLAN</b> HP EMSM7xx Controllers HP EMSM4xx Access Points HP EMSM3xx Access Points HP EM110 Access Point HP EMSM317 Access Point
	<b>Unified Communications</b> HP UC Applications HP VCX Connect Platform HP VCX Enterprise Platform HP VCX Gateways HP 3x00 IP Phones
	<b>Management</b> PCM/PCM+ IDM NIM TMS zL Module

**V**

## VALUE

	<b>Web Managed Switches</b> HP V19x0 HP V1810 HP V1700
	<b>Unmanaged Switches</b> HP V14x0 HP V2124 HP V408
	<b>WLAN/WAN</b> HP V1xx Wireless Routers

**S**

## SECURITY

	<b>IPS</b> HP S5100N HP S2500N HP S1400N HP S660N HP S330 HP S110 HP S10 HP Core Controller
	<b>Management</b> SMS HP SMS Controller

**Advanced:** For customers with large/complex deployments seeking advanced, full featured networking technology to drive competitive advantage with lower cost of ownership.

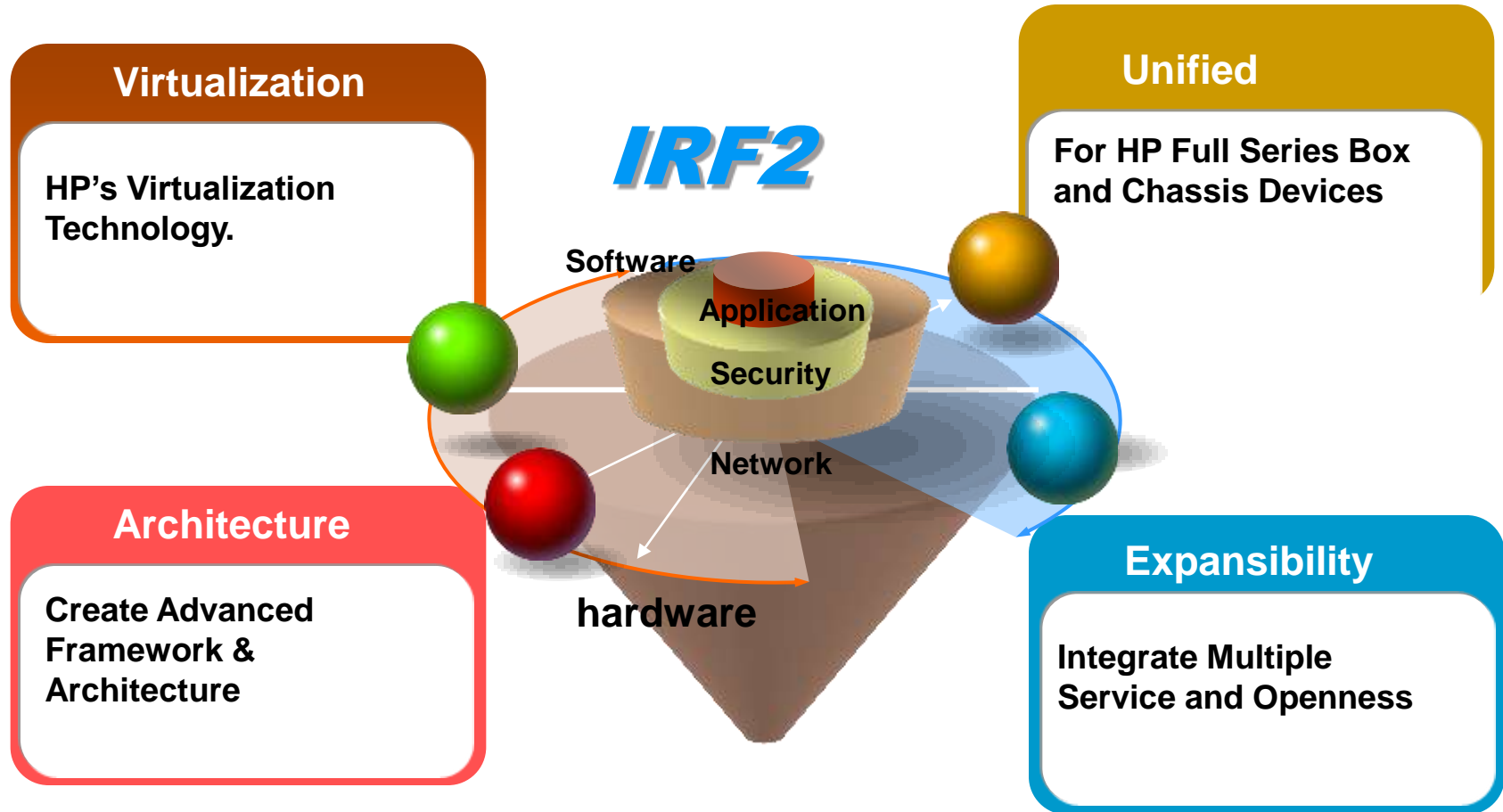
**Essential:** For customers seeking essential proven technology that's affordable and easy to use while providing scalability for future needs.

**Value:** For value-conscious customers seeking reliable and easy-to-use connectivity solutions.

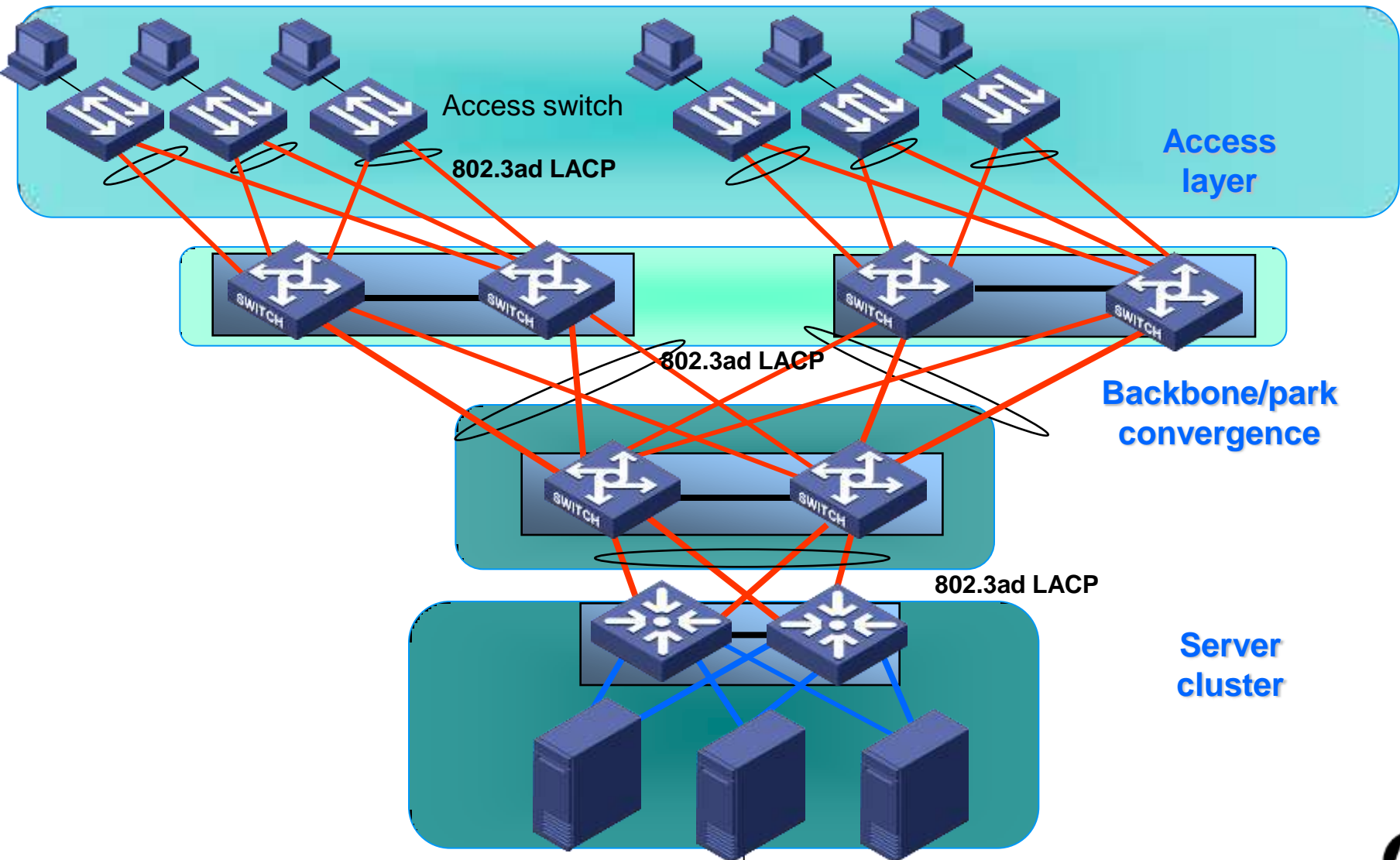
**Security:** For companies that require world-class network Security solutions to proactively stop threats and deliver business continuity

Note: "x" in a product series name indicates multiple series numbers are available

# What's IRF 2.0

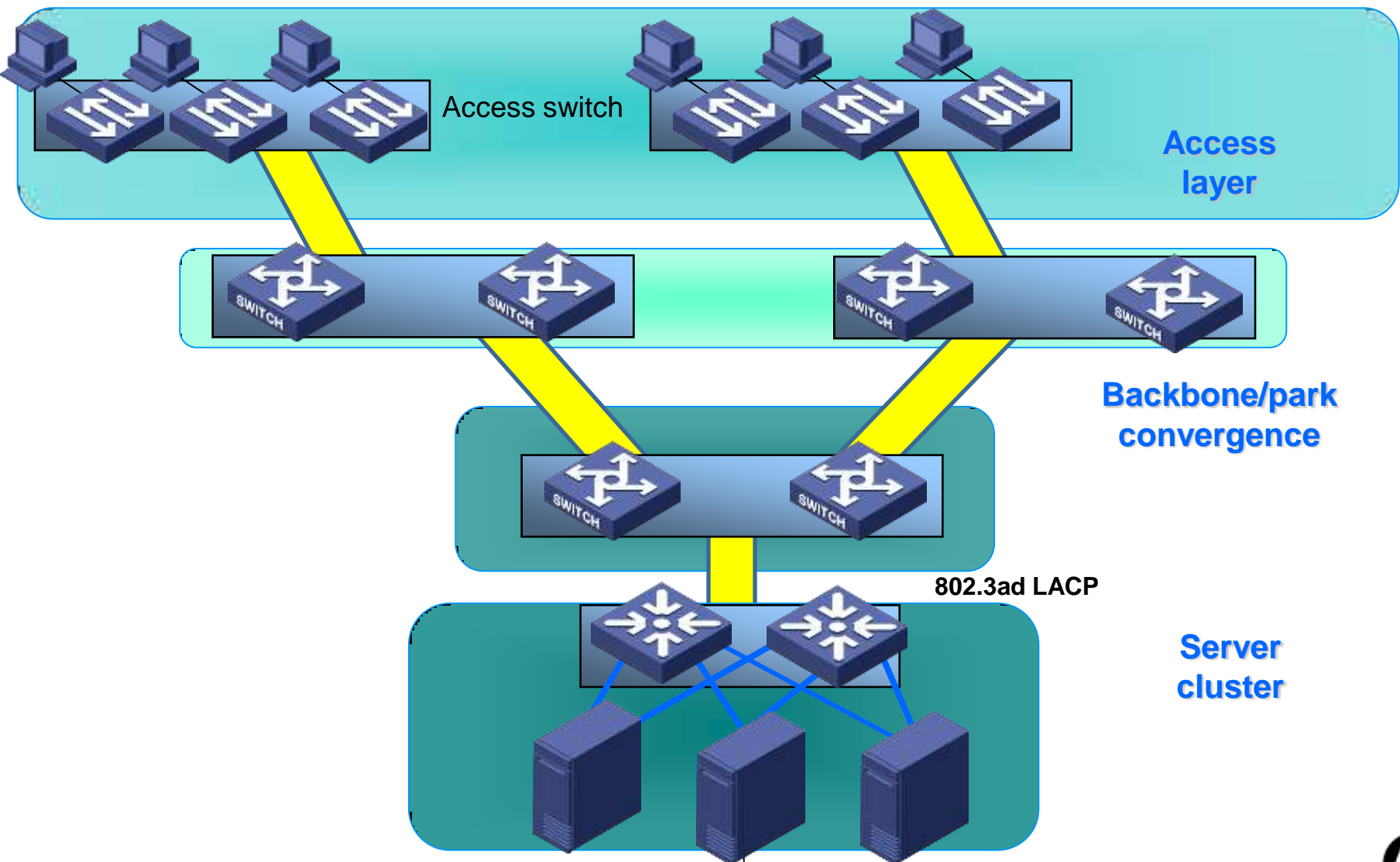


# Shortcut for the IRF: Before



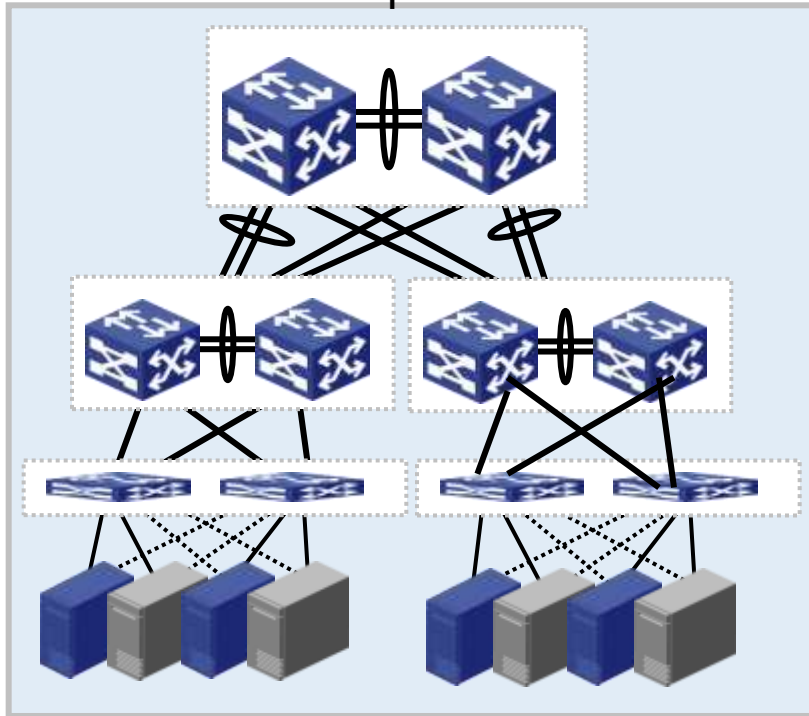


# Shortcut for the IRF: After

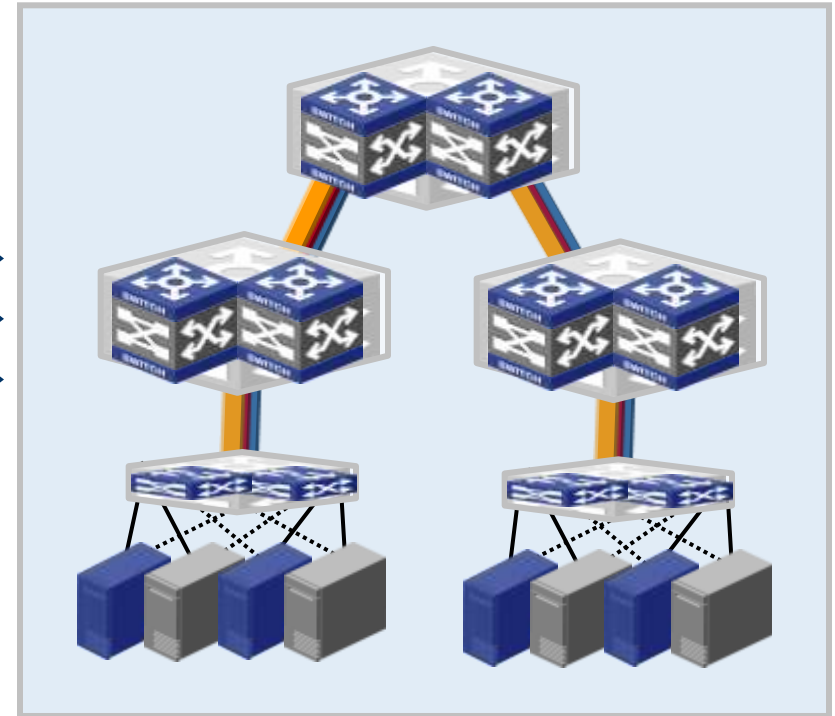


# Intelligent Resilient Framework - IRF

## Traditional looped based network



## IRF based network



Complexity of RSTP/MSTP (Design)  
Failover time ~ 3s (RSTP/MSTP/VRRP)  
Complex L3 Design (subnets/protocols)  
Any link/node failure is typically forcing a topology recalculation (RSTP/OSPF)

Simpler Design  
Single Logical Entity (management & routing protocols)  
Eliminate the complexity of VLAN + MSTP / VRRP  
Faster reconvergence during link/board failures



# HP Data Center Switch Portfolio



A12518

A12508

A9512

A9508

A9505

A5820-24XG

A5820-14XG

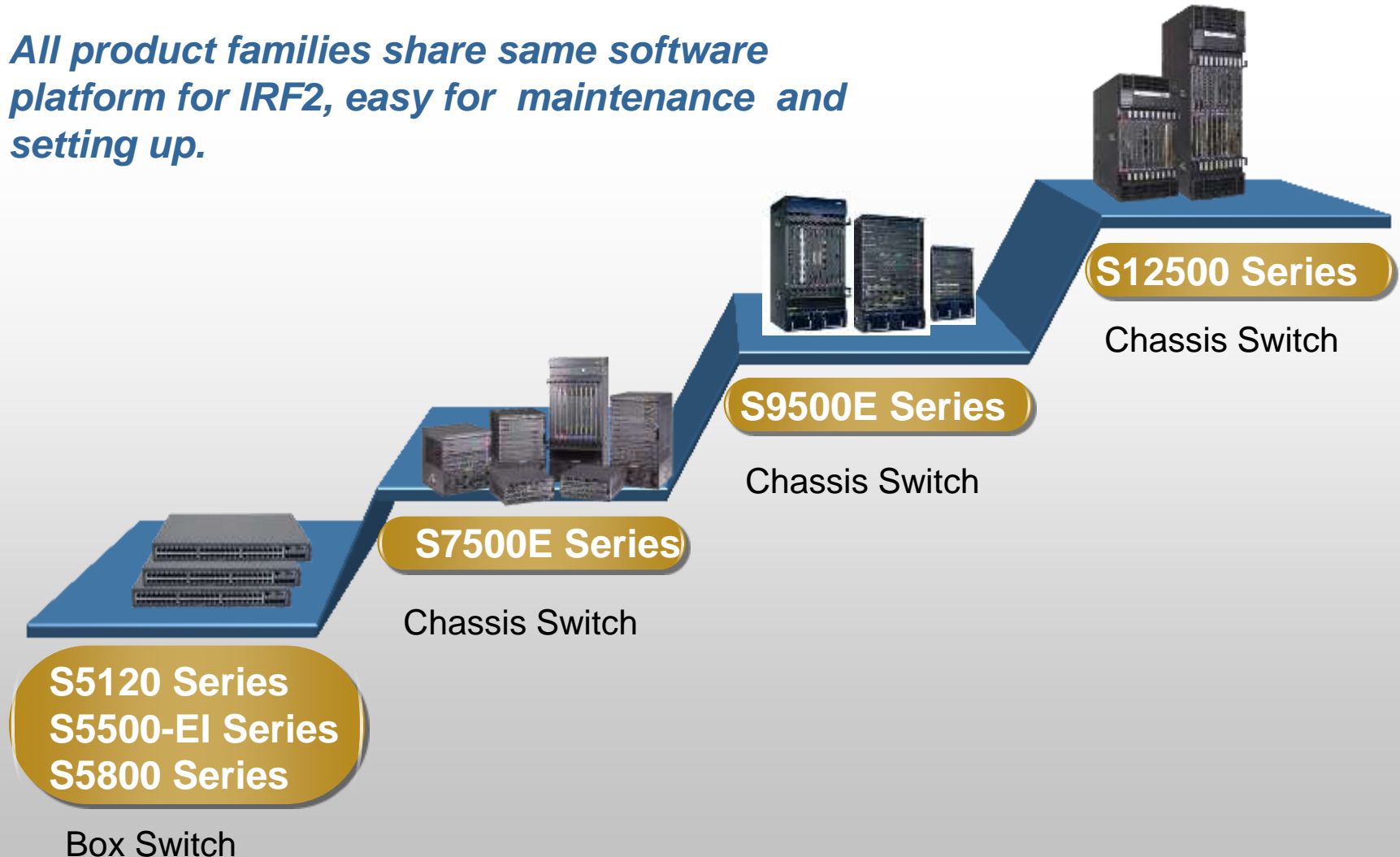
## Performance

Chassis/Box Switching Capacity	6.6 Tbps	3.3 Tbps	1.44 Tbps	1.44 Tbps	720 Gbps	488 Gbps	488 Gbps
Throughput	2.2 Bpps	950 Mpps	857 Mpps	571 Mpps	357 Mpps	363Mpps	363Mpps
10GE (1:1) Density (max per chassis/box)	128	64	48	32	20	24	22
10GE (x:1) Density (max per chassis/box)	512 (4:1)	256 (4:1)	192 (4:1)	128 (4:1)	90 (4:1)	24	22
1GE (1:1) Density (max per chassis/box)	864	384	576	384	240	4	4
1GE (x:1) Density (max per chassis/box)	864	384	576	384	240	4	4
Port to Port Latency	8.15 uSec	8.15 uSec	4-5 uSec	4-5 uSec	4-5 uSec	1.48 (sf) - 1.2 (ct) uSec	
Power consumption (fully loaded chassis)	7,400 W	2,878 W	1,370 W	990 W	640 W	160 W	178 W
Minimal configuration	\$128,770	\$77,345	\$80,960	\$79,960	\$67,960	\$17,995	\$19,995

**New modern architecture, leveraging common OS, management and network design/resiliency protocols**

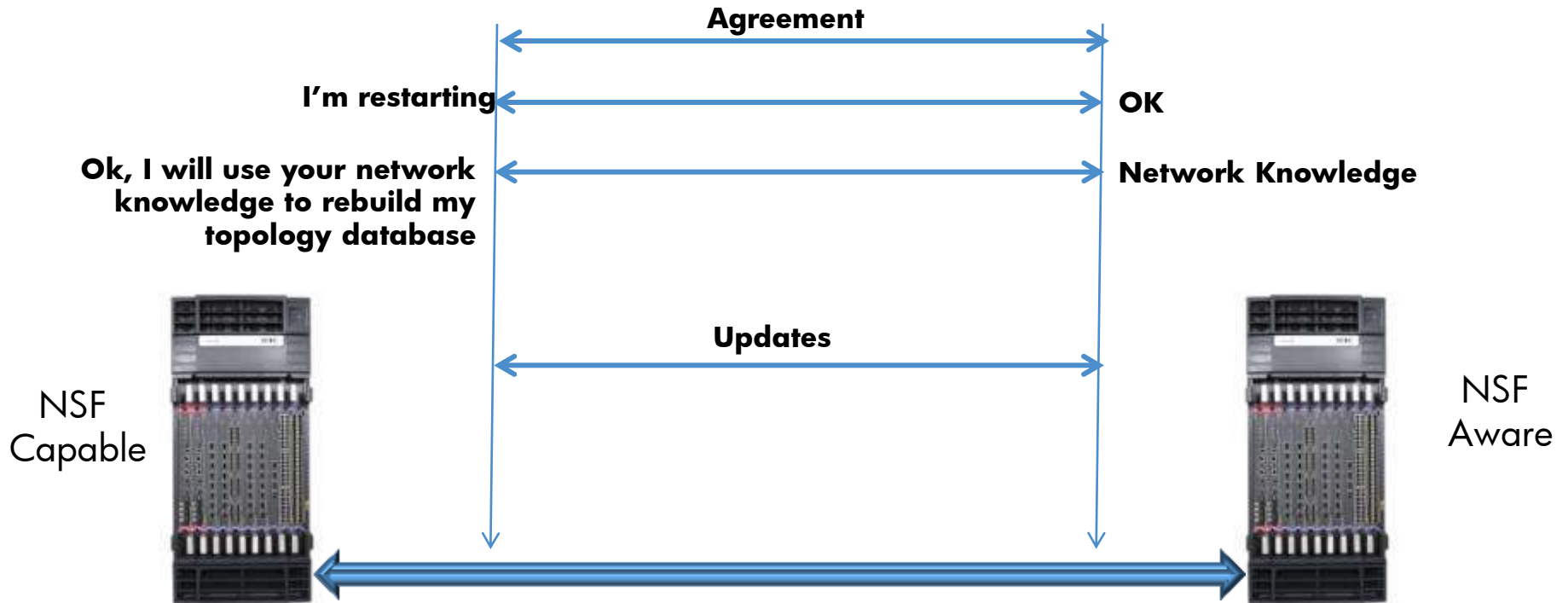
# Unified Software Platform

*All product families share same software platform for IRF2, easy for maintenance and setting up.*



# A12500 WITH NSF/GR

*Non Stop Forwarding/Graceful Restart*



Forwarding Table stays "as is" during CPU switchover  
Rebuilds its routing information after the CPU switchover

Its role is to assist the NSF capable router during the CPU switchover  
without advertising that its peer is down for its neighbors

# HP A7500 Series

## A flexible Enterprise Modular Switch family

- 714 Mpps forwarding / 1 Tbps
- Supports up to 84 ports 10 Gigabit and 504 ports Gigabit
- Virtual Resilient Switch Fabric (IRF<sup>®</sup>, RRPP)
- HA/ Hot Swappable Modules
- Management Consistency via Comware OS and IMC
- Extensive Layer 2 and Layer 3 features
- High Performance OAA Modules
- High PoE+ port density
- 1.8 X the performance of Catalyst 6500E
- 3 X the performance of Catalyst 4500E
- Green Design – consumes 60% less power than Cat6500E



**A7506-V**



**A7510**



**A7503**



**A7506**



**A7502**



**A7503-S**

# HP A5820 Series

- 714 Mpps forwarding / 1 Tbps
- Unique Flex Chassis
- 1 & 2RU Layer 3 Flex Chassis 14/24 Port fixed 10G Managed Switches with 4 Gigabit ports
- Use on Enterprise Core and Distribution applications, or Data Center Top of Rack
- Cut through switching for very low latency
- Comware common OS across all enterprise switches and routers
- IRF Advanced stacking up to 9 units
  - 40Gbps stacking bandwidth
- Support for future embedded applications
- Clustered stacking of up to 255 units:
  - › A3100-EI, A3600, A3610, A5500-SI/EI, A5600, A5800



Typical Deployments (standalone or stacked):  
✓10G Top of Rack  
✓Small 10G Enterprise core

Description	10G SFP+ Ports	10/100/1000 Copper	I/O Module Slots
A5820-14XG	14 (22)	4	2 + 1 App Module Slot
A5820-24XG	24	4	0



Certification Validates HP A12508 and A5820 Switches use  
*50% less Energy Compared to Competitors*



# A5820 SERIES

## A5820-14XG-SFP+ Flex Chassis

- Fixed 14 10Gig SFP+ and 4 Gigabit Base-T
- Supports SFP+/CR server connectivity
- 2 media slots
  - 2/4 port 10Gig SFP+
- 1 Expansion slot
- Supports cut-through switching for very low latency
- IRF stacks up to 9
- Low power (Max 300W)
- Hot swappable PS (AC/DC)
- Hot swappable fan



***Building or Department Enterprise Core,  
Data Center Top-of-Rack Switch***



# INTEGRATED SERVICES



- Simplified Configuration – Unified Management, no SPAN/Mirror ports
- Rack Space Savings – Removes the need for additional appliances
- Power Savings – Dedicated modules consume less power than appliances
- Flexible Deployment – Add applications where and when you need them

## Tested, Validated and Supported by H3C

Security	IPS, VPN/Firewall, NAC, Application Control Gateway
Monitoring	Netstream (NetFlow, sFlow), Open Source tools
Wireless	Unified Wired and Wireless Access
Virtualization	Server Load Balancing, Network Provisioning
WAN Optimization	Market-Leading Router Integration

# A5820 SERIES

FCoE Module for A5820-14XG-SFP+



*Ideal for top-of rack server / network I/O consolidation and flexible, low cost 10 GbE Migration*

4 port FCoE module (available Q3 2010)

A5820-14XG-SFP+ 4-Port 8/4/2 Gbps FCoE (SFP+) Expansion Module

## ✓ **FCoE expansion module for A5820 Ethernet data center switch**

- A5820-14XG-SFP+ chassis support for up to two modules

## ✓ **4 external SFP+ FLEX ports**

- Configurable for 10Gb CEE or 8Gb FC operation
- Supports copper or optical transceivers

## ✓ **Enables 1GE-to-10GE migration at the network edge**

## ✓ **100% SAN interoperability**

- NPIV-based Transparent mode: no E\_port complexity or change to existing SAN mgmt practices

## ✓ **100% LAN interoperability**

## ✓ **QuickTools onboard mgmt interface**

- RJ-45 Ethernet management port or inband

## ✓ **FCoE Features: FIP VLAN, FCF, FLOGI/FDISC, FCoE Data Path**

# Q&A

