

NETGEAR®

Connect with Innovation™

Instalación e infraestructura red

PROSAFE®



Xavier Lleixa
Sales Engineer Netgear



Offices Worldwide with Global Service and Support

NETGEAR

Fundada: 1996, NTGR on NASDAQ
Central: San Jose, CA con oficinas en 26 países
Crecimiento: \$1Bn+, ~40% YoY growth

RELIABLE

AFORDABLE

SIMPLE



Copyright 2011

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Historia

- Trabajamos con 60 ISP a nivel mundial
- Más de 20 Millones de Clientes Empresariales
 - Soluciones para entornos de (1-1000 usuarios)
 - Global perspective + local support
 - Garantía de por vida
 - 24x7 soporte en castellano

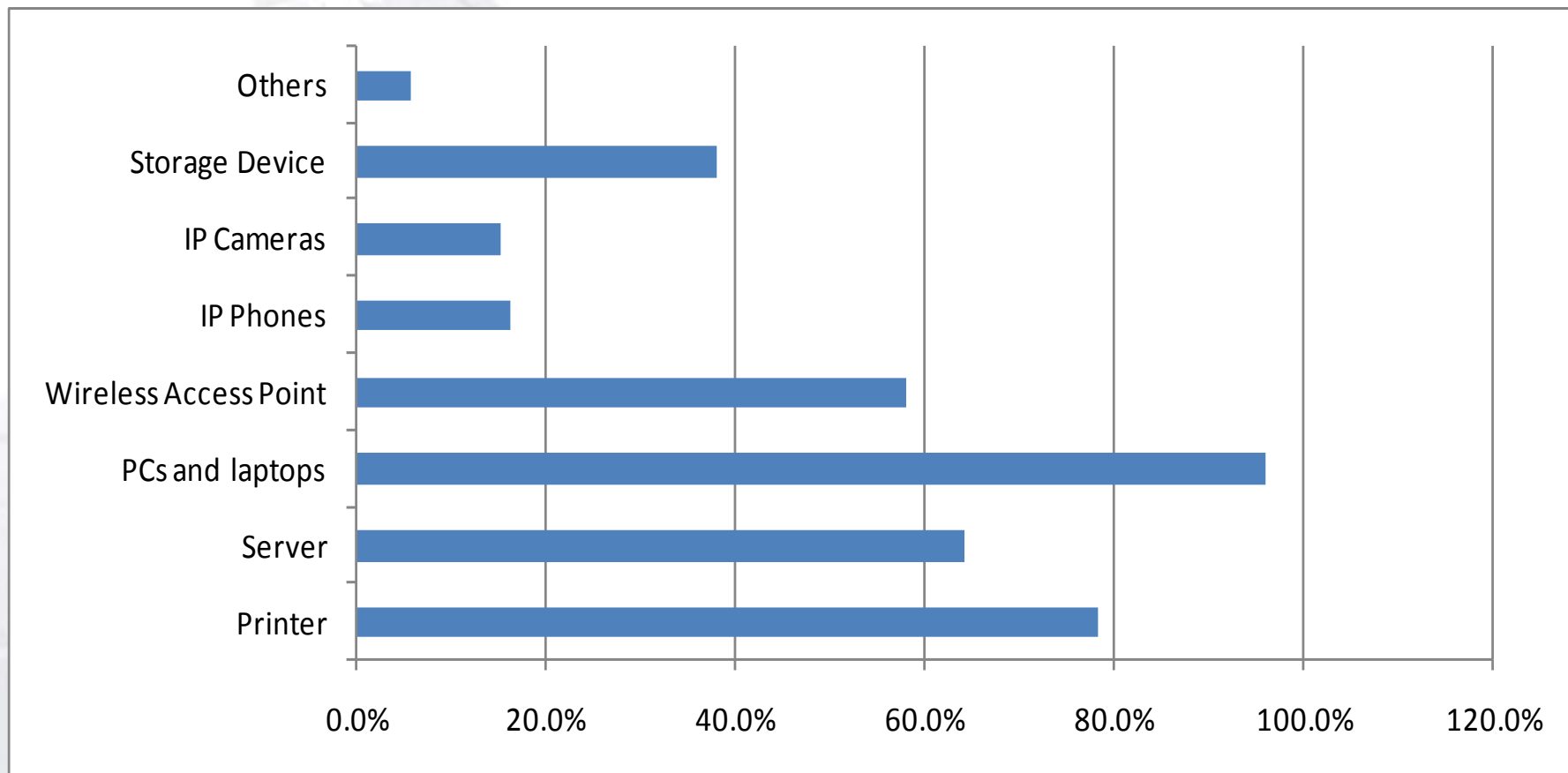


NETGEAR Business Products

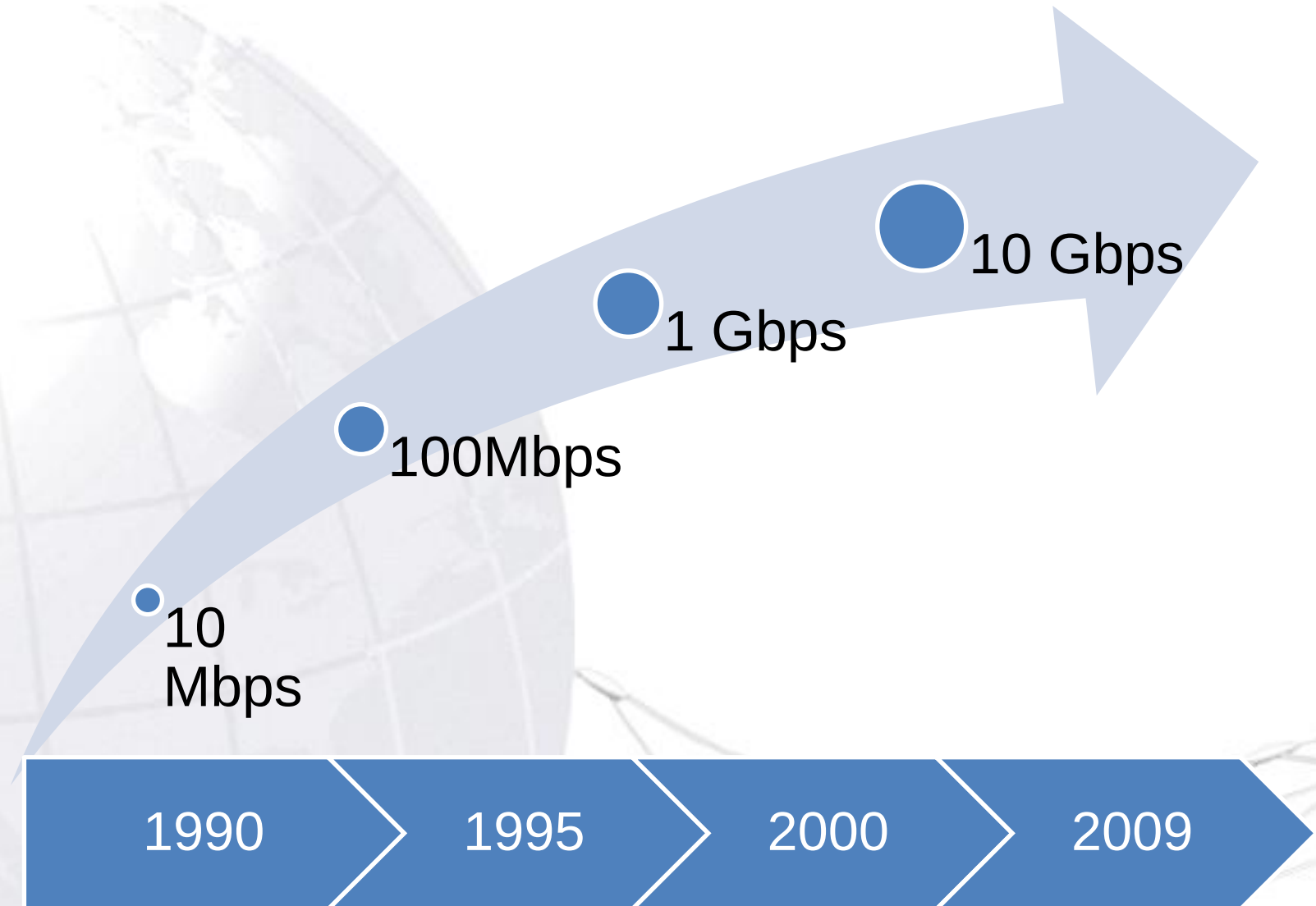
HOY :

Instalación e Infraestructura red

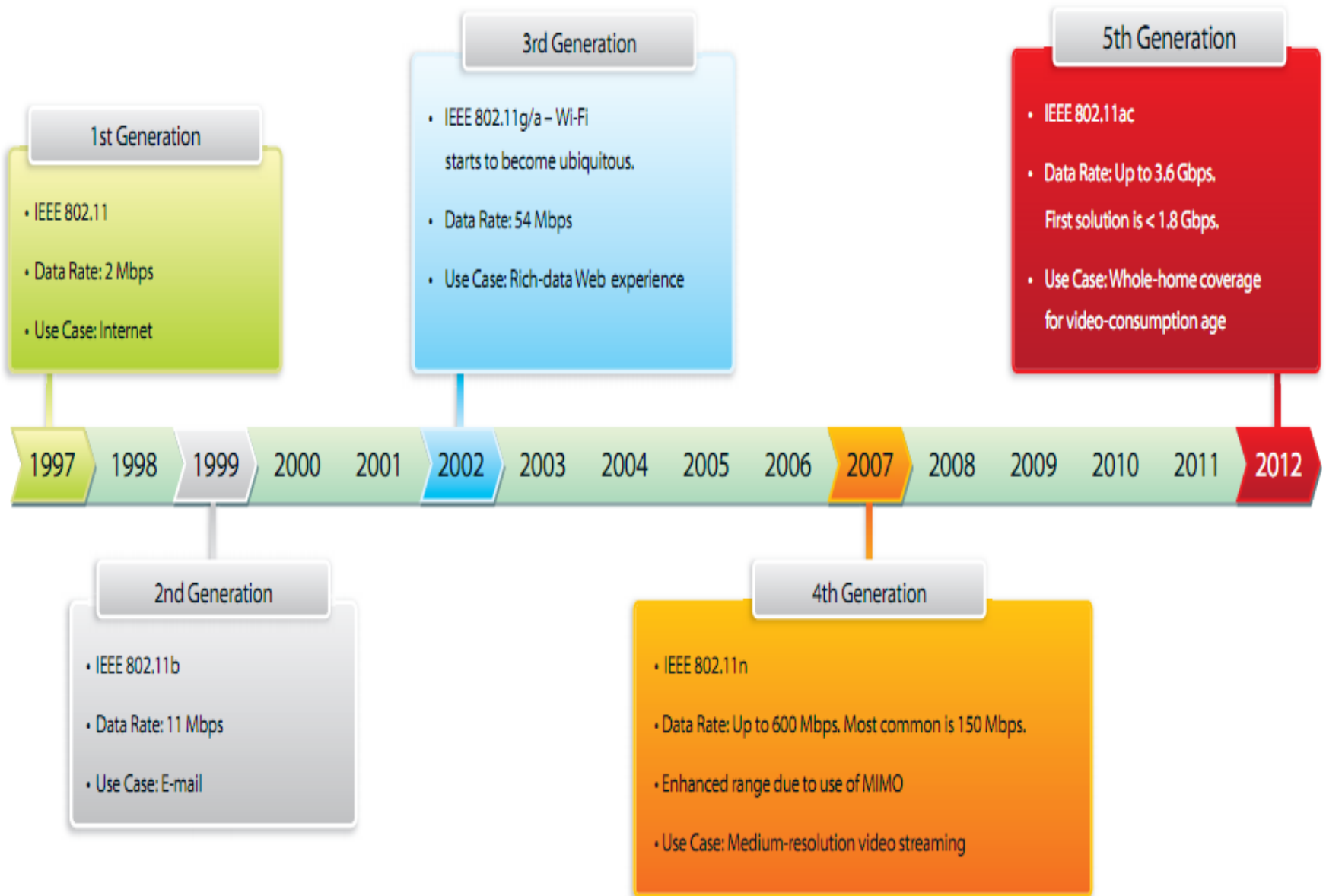
Equipos conectados a la red IP



Cableado



WIFI

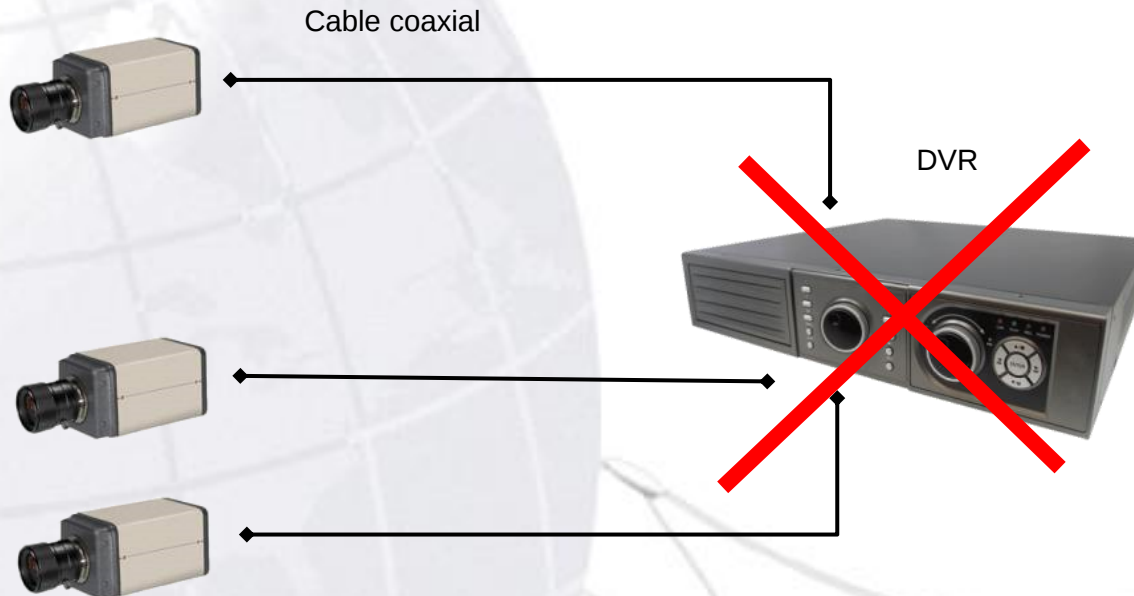


Nuevas oportunidades de negocio

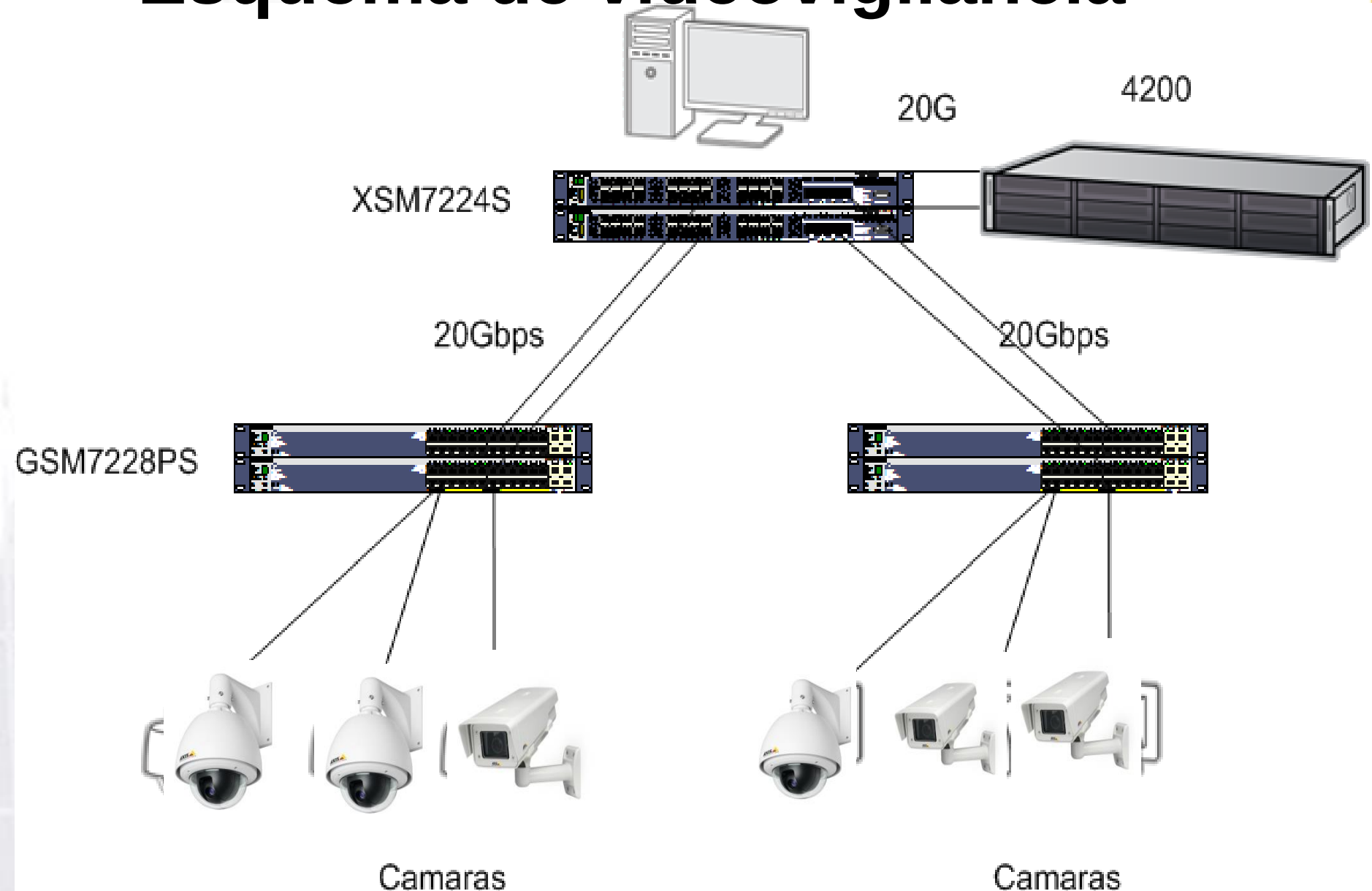


Nuevas Tendencias en Video ..

Sustitución de los Grabadores DVR Analógicos por sistemas de Almacenamiento más económicos y flexibles



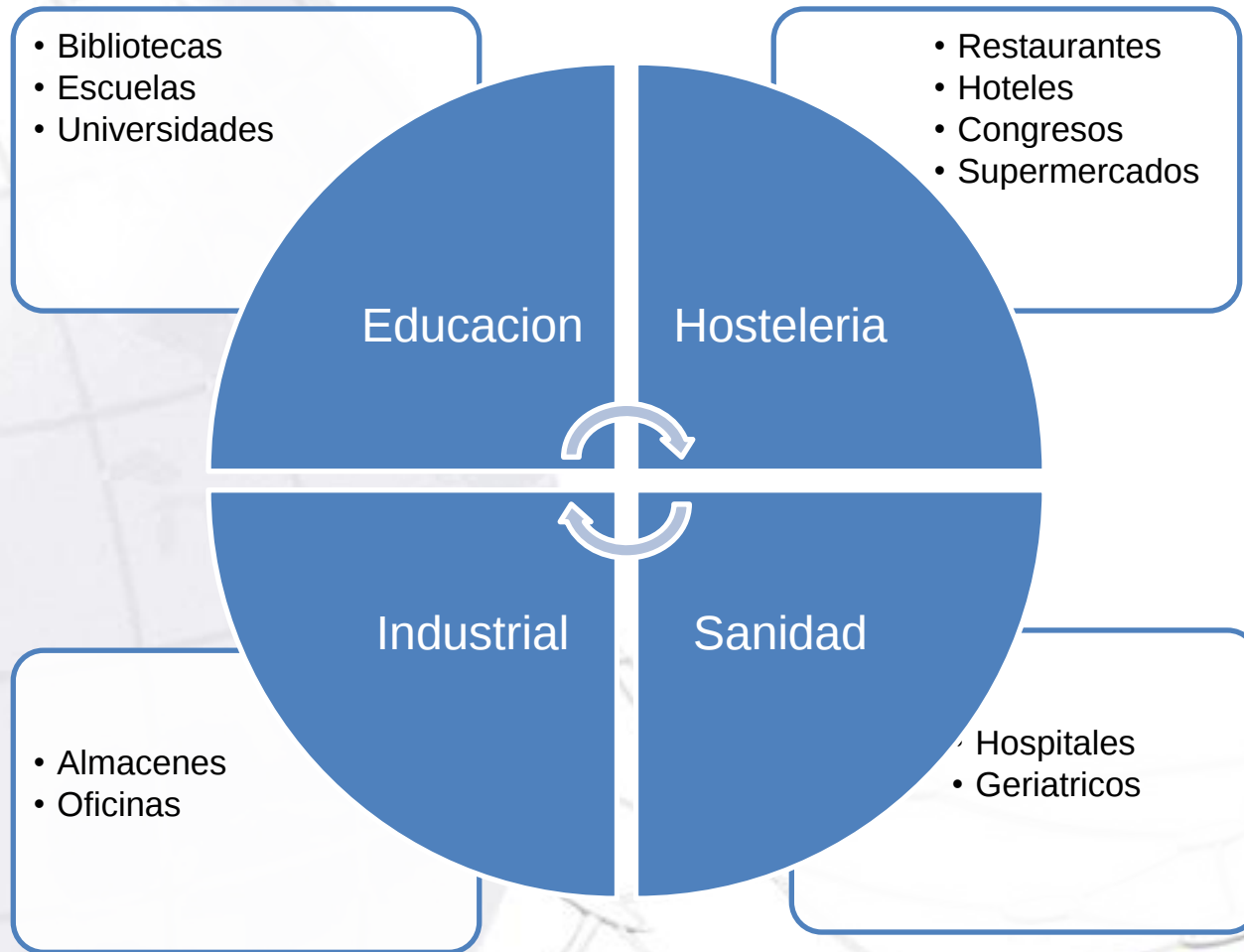
Esquema de videovigilancia



Ventajas de IP Surveillance



Aplicaciones



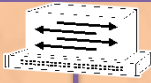
Typical Hotel Infrastructure



WC9500 / 7520



AAA and AC GW



IP PBX



XCM8800



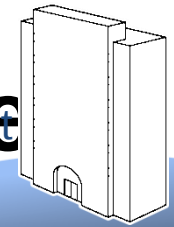
ReadyNAS / NVR



Internet



Cloud Management



M5300



FS728TS



GS724TS



Staff



M5300



FS728TS



GS724TS



Room



M5300



FS728TP



GS724TP



IP PBX



M5300



GS724TPS



WLAN



M5300



FS728TP



GS724TPS



Surveillance



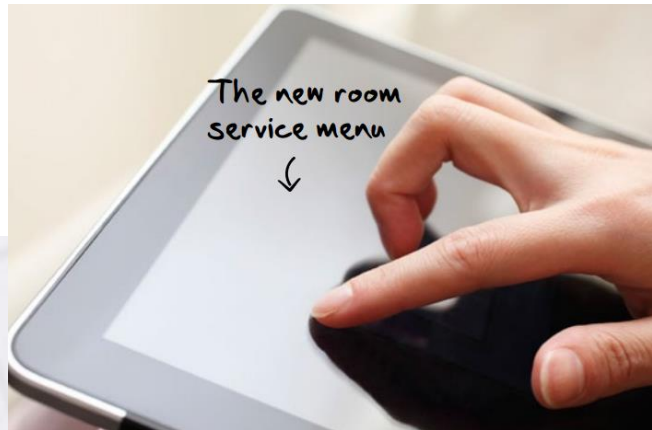
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Technologies of Future

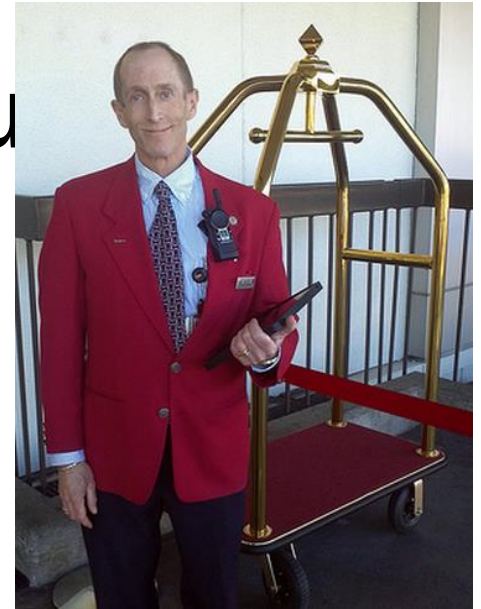


← The new room key

2 | Keeping Up with Mobility: Mastering the Digital Revolution in the Lodging Industry

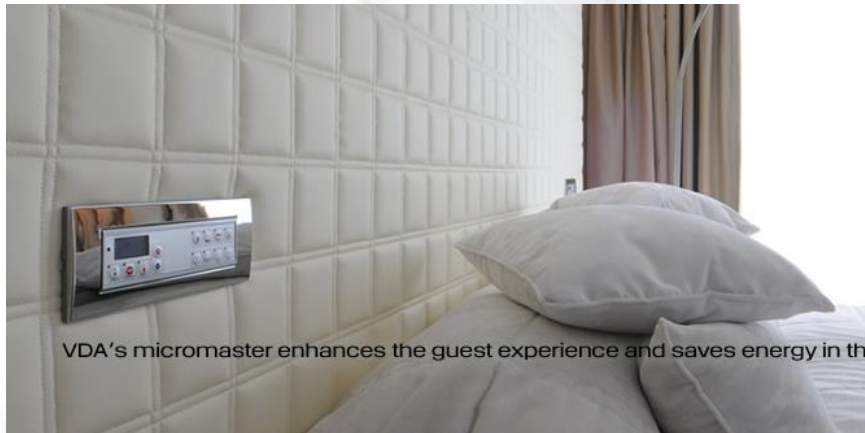


The new room service menu



Smart Rooms

HD + Interactive



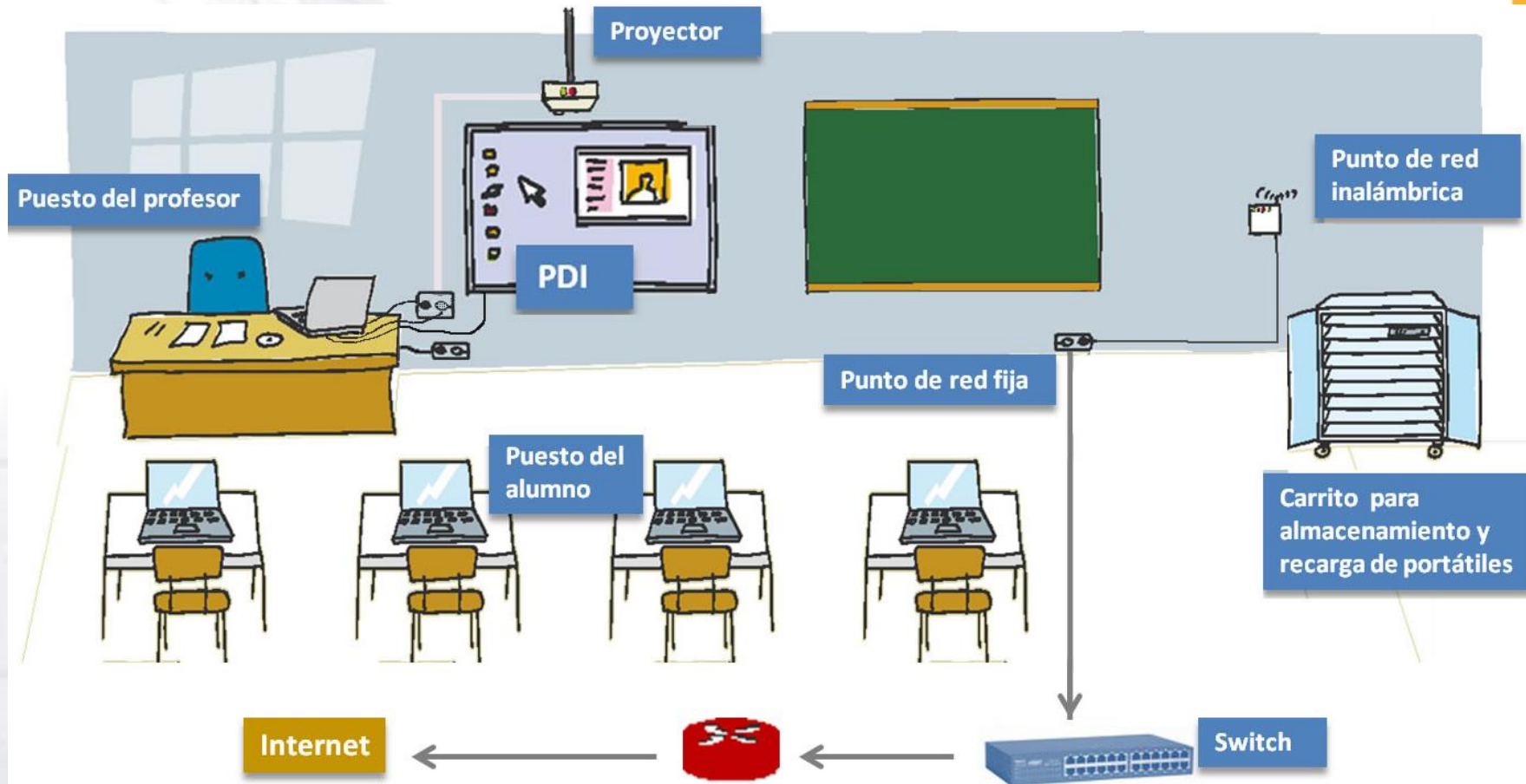
New Applications



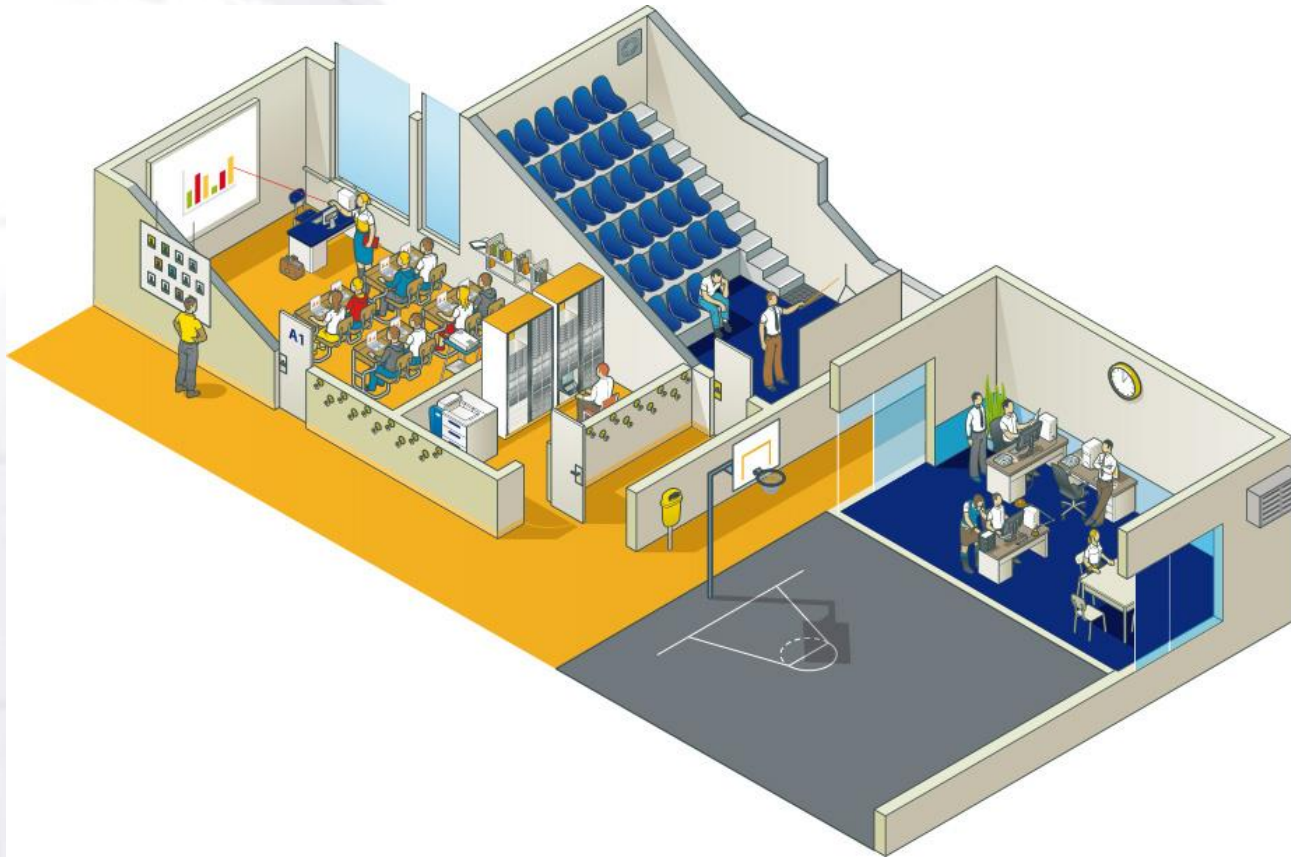
Connect with Innovation™

R

Entornos Educativos



Enabling a digital learning experience



Wireless Networking Management Solutions

Centros Comerciales





Hospitales



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WiFi Logistica



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Situacion actual

Situación Actual

- En las PYMES el 70% de la venta de switches son no gestionable
- La red Ethernet ya no sólo transporta datos:
 - Camaras IP
 - Telefonos IP
- Necesitamos sistemas que nos permitan crecer.
- Nuevas necesidades en la red como transmisión de video
- Los switches no gestionables no nos ofrecen ningún tipo de seguridad

Problemática Actual

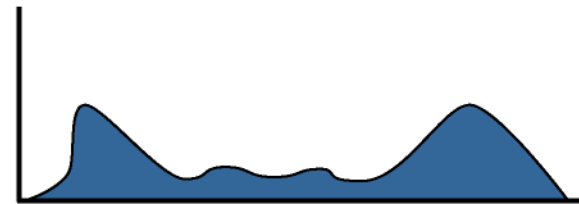
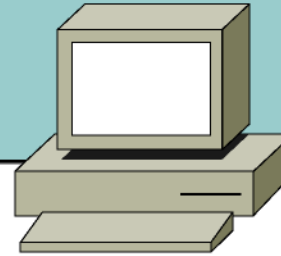
- *Convergencia de redes :*
 - *Telefonia IP*
 - *Sistemas de Videovigilancia*
 - *Datos*
 - *Sistemas de Almacenamiento*
 - *Megafonia IP*
 - *Domótica*



Problemas redes convergentes

- Ancho de banda
- Retardo
- Variacion del retardo
- Perdida de paquetes

Data

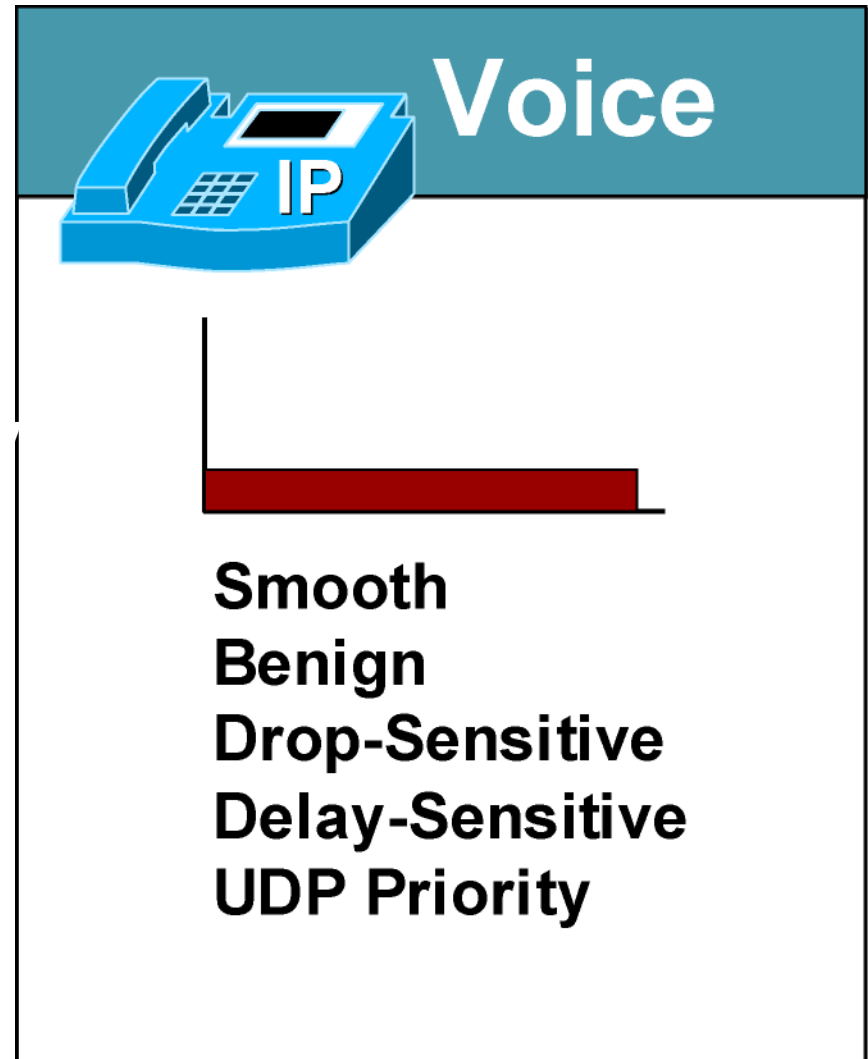


Smooth or Bursty
Benign or Greedy
Drop-Insensitive
Delay-Insensitive
TCP Retransmits

- **Diferentes tipos de características.**
- **Diferentes perfiles de trafico.**
- **Clasificacion en diferentes perfiles**

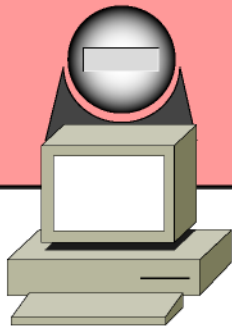
QoS Traffic Requirements: Voice

- Latencia < 150 ms*
- Jitter < 30 ms*
- Pérdidas < 1%*

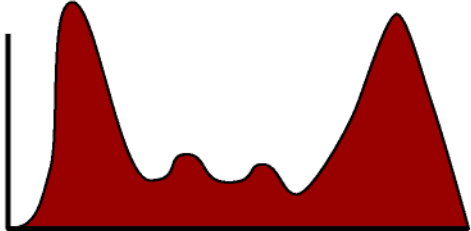


QoS Requirements: Videoconferencing

- Latencia ≤ 150 ms*
- Jitter ≤ 30 ms*
- Perdidas $\leq 1\%$ *



Video



Bursty
Greedy
Drop-Sensitive
Delay-Sensitive
UDP Priority

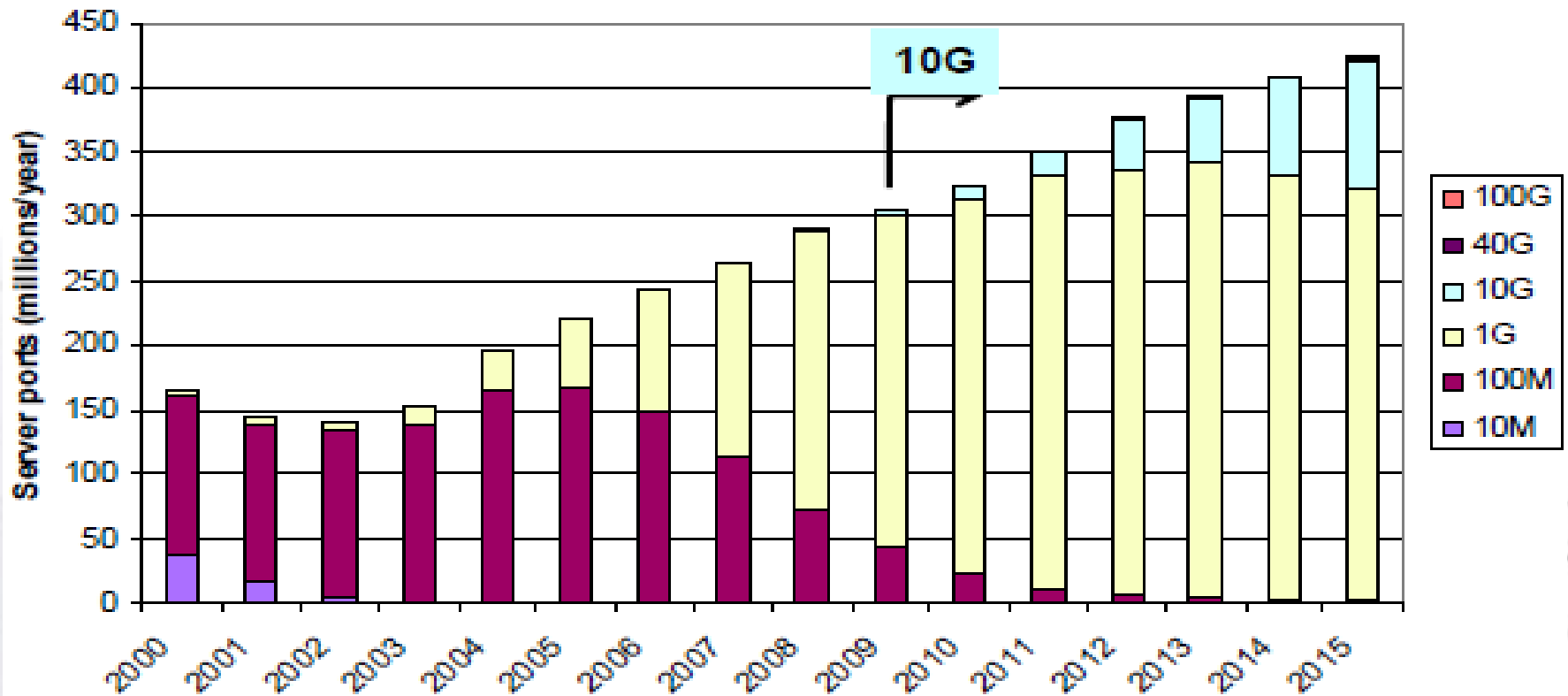
017G_046



10 Gigabit

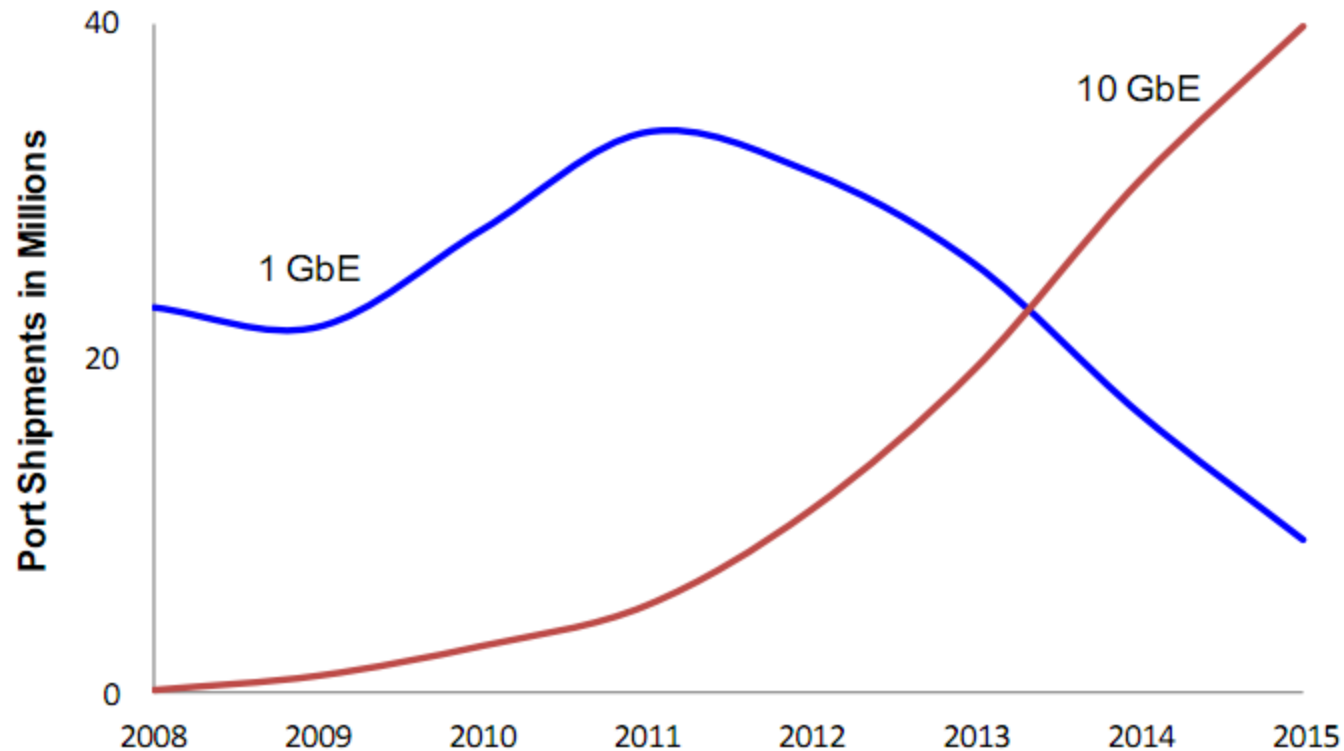
Evolución hacia 10Gbps

Port speed in switches



Dominant Server Network Connection

Figure 1: Ethernet Port Shipments



© 2012 CREHAN RESEARCH Inc.

Entorno 10Gbps

Datacenter

- 30% en 2012 con puertos 10Gbps
- Cuello de botella Gigabit

Virtualizacion

- Consolidacion servidores
- Conectividad 10Gbps iSCSI

Video

- Aumento de calidad y VideoIP

Fibra

Módulos SFP+

10GBASE-SR

- Multimodo
- 50 metros



10GBASE-LR Monomodo 10 km

AXM761
(LC) SFP+



AXM763
(LC) SFP+



AXM762
(LC) SFP+



<u>Fiber</u>		10GBaseSR	10GBaseLRM	10GBaseLR
Single mode	9/125μm	✗	✗	✓ 10km
Multimode OM1	62.5/125μm	✓ 33m	✓ 220m	✓ 33m
Multimode OM2	50/125μm	✓ 33m	✓ 220m	✓ 33m
Multimode OM3	50/125μm	✓ 300m	✓ 260m	✓ 300m

Direct Attach SFP+

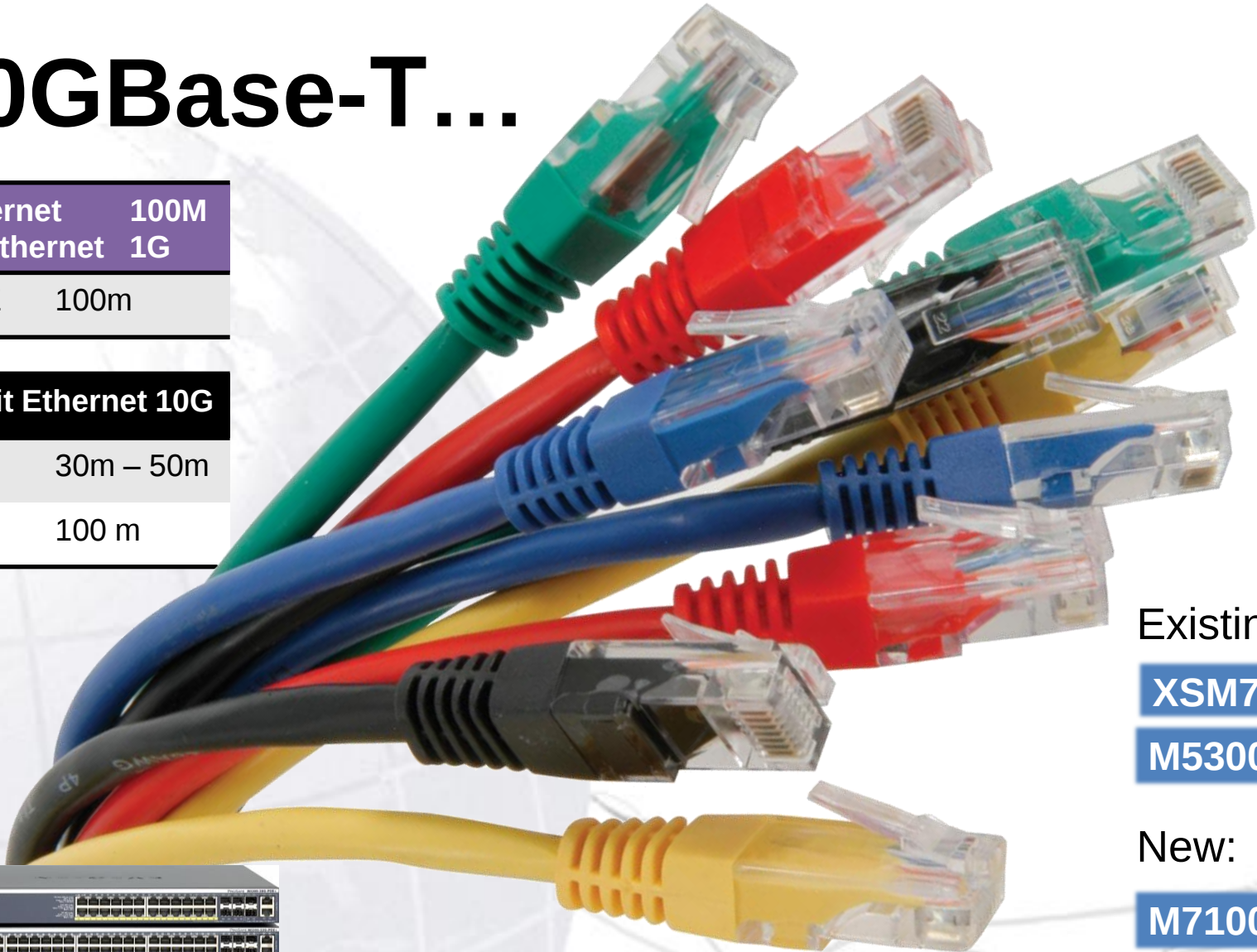
- Conexión Puertos SFP+
- Distancias hasta 10 metros
 - AXC761 : 1 metro
 - AXC763 : 3 metros
- Precio competitivo
- Conectores SFP+ integrados



10GBase-T...

Fast Ethernet	100M
Gigabit Ethernet	1G
Cat 5 / 5E	100m

10 Gigabit Ethernet 10G	
Cat 6	30m – 50m
Cat 6A / 7	100 m



Existing:

XSM7224S

M5300 series

New:

M7100 series

XS712T Smart

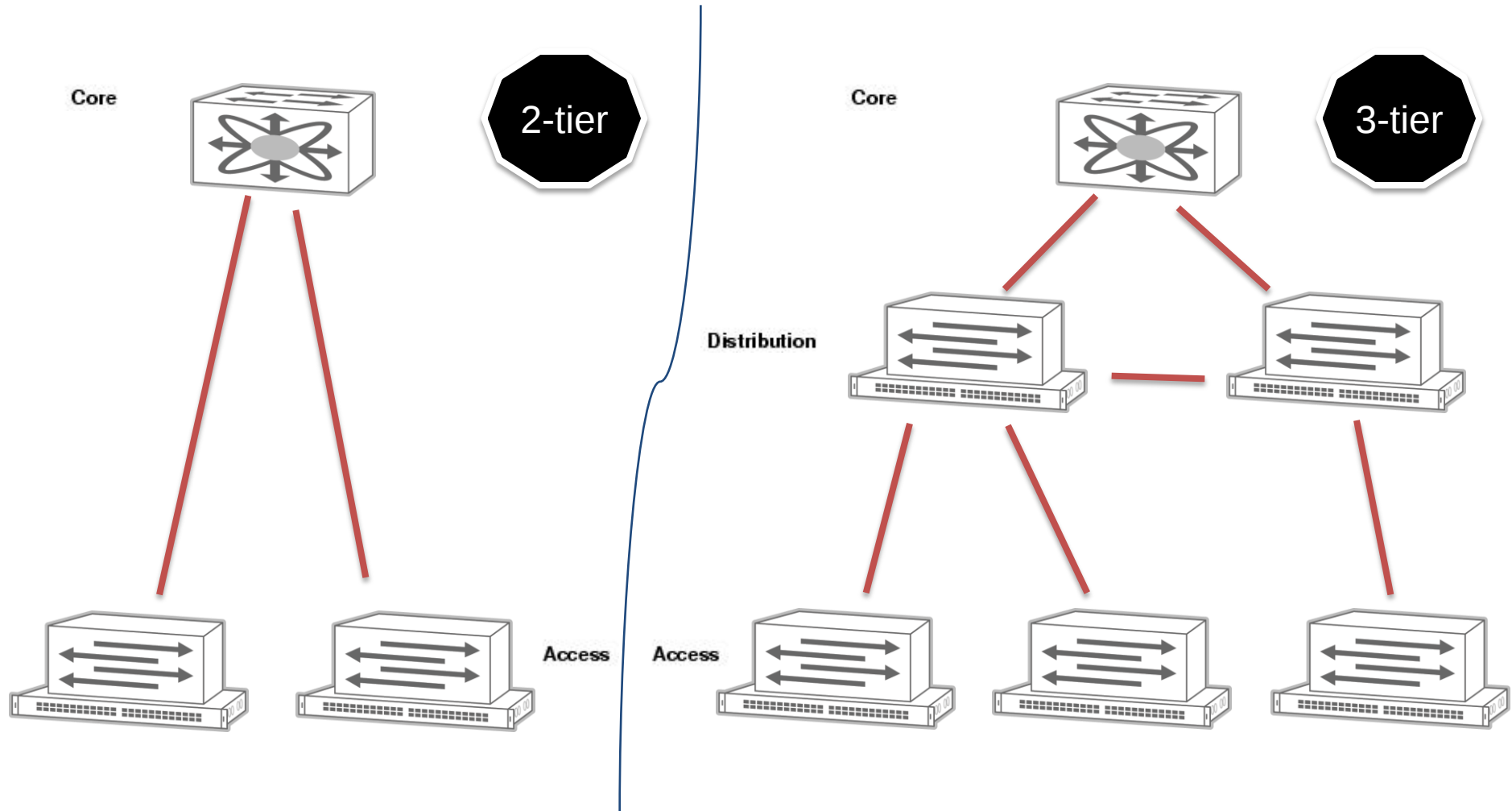
XS708E Plus

...is RJ45

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10GBase-T Backbone

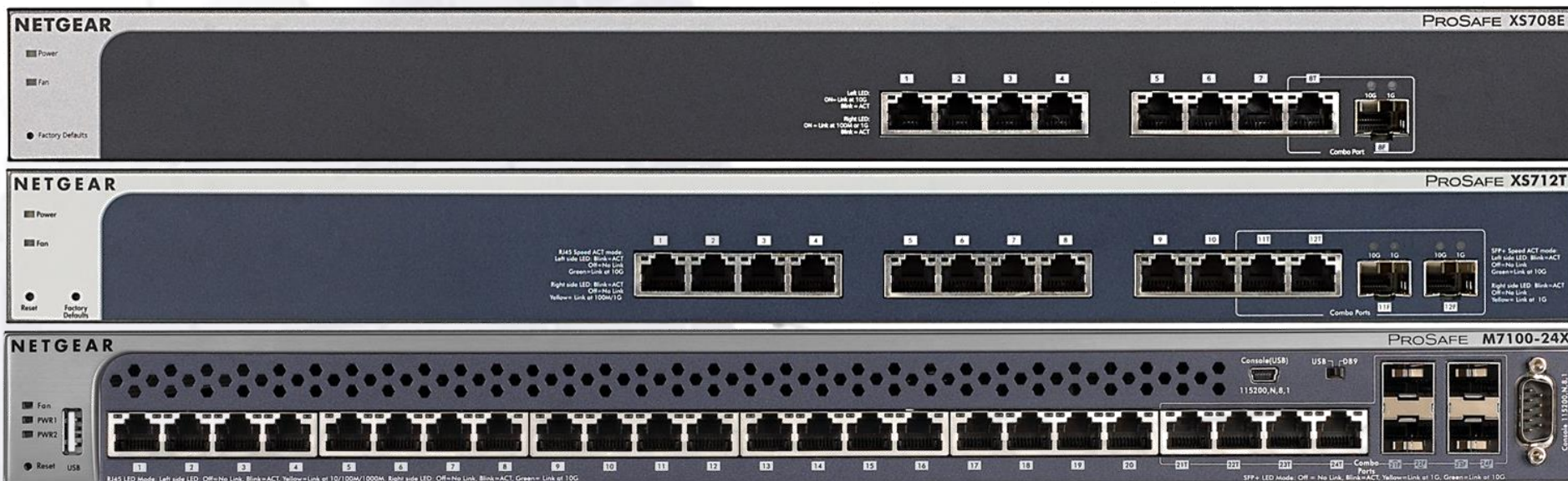
- Depending on line-rate or over-subscription requirements



10 Gigabit Copper New Switches

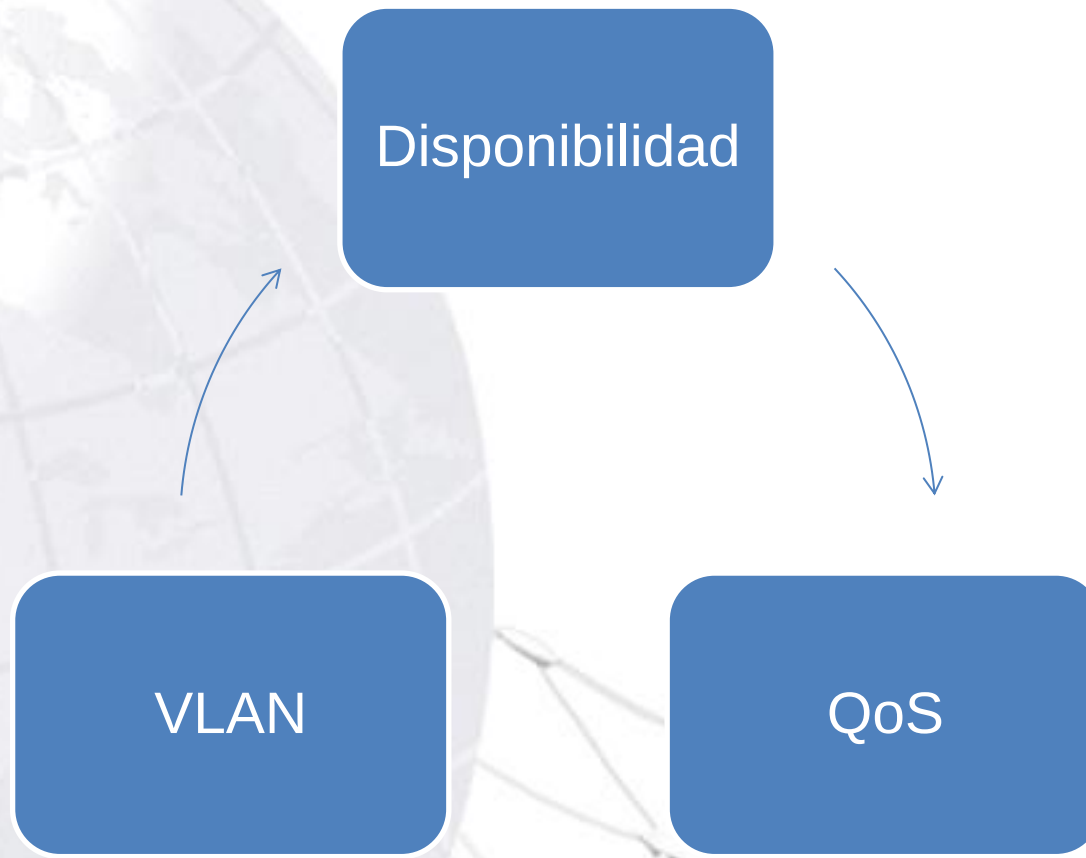
NEW

Name	Software	Management	Features	10GBase-T	SFP+	Fabric	Top of Rack	SKU
XS708E	L2	PC based	☑	8	1	160Gbps	1 fixed PSU 1 fixed Fan side-to-side airflow	XS708E
XS712T	L2+	Web	☑ ☑	12	2	240Gbps		XS712T
M7100-24X	L2+	CLI, Web	☑ ☑ ☑	24	4	480Gbps	2 hot swap PSUs 2 hot swap Fan trays front-to-back airflow	XSM7224



Redes Convergentes

Agenda



Necesidades Nuevas Redes

Disponibilidad



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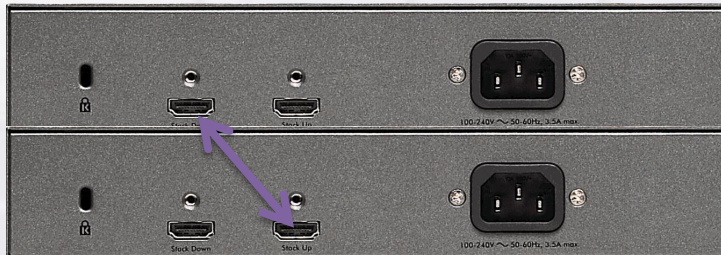
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Virtual Chassis Stacking



Stacking

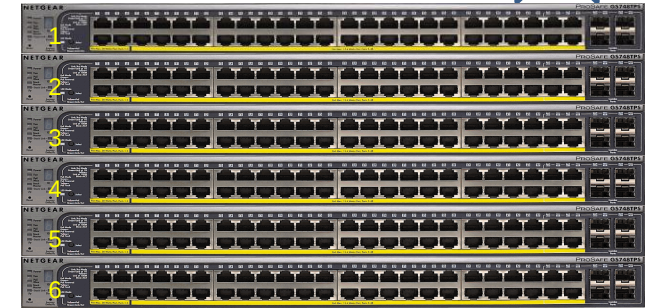


192.168.1.168

20 Gbps
Stack

Fácil reemplazo y ampliación

AUR : Automatic Unit Replacement



6 x GS748TPS
288-Port Gigabit PoE

Si una unidad falla o se amplía la pila :

- Se upgradea la pila automáticamente
- Se transmite la configuración

Sin necesidad de configuración manual

- Sin reiniciar la pila
- Sin interrupciones

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Gestión centralizada

The screenshot shows the Netgear ProSafe 48TS switch management web interface. The top navigation bar includes tabs for System, Switching (selected), QoS, Security, Monitoring, Maintenance, and Help. Below this is a sub-navigation bar with links for Ports, LAG (selected), VLAN, STP, Multicast, and Address Table. The main content area is titled "LAG Membership" and contains a "Membership" configuration window. This window has fields for "LAG ID" (set to 1), "LAG Name" (set to LAG1), and "LAG Type" (set to LACP). A "CURRENT MEMBERS" button is also present. Below these fields, there are sections for "Unit 1", "Unit 2", "Unit 3", "Unit 4", "Unit 5", and "Unit 6". Each unit section displays a grid of 48 ports (GE Port 01 to 48) with checkboxes for membership. In Unit 1, port 01 is checked. In Unit 2, port 01 is also checked. The bottom of the interface has "CANCEL" and "APPLY" buttons. The footer shows the copyright "Copyright © 1996-2007 Netgear®".

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PROSAFE 48TS
48 Switch

System Switching QoS Security Monitoring Maintenance Help

Ports **LAG** VLAN STP Multicast Address Table

Basic
» LAG Configuration
» LAG Membership
Advanced

LAG Membership

Membership

LAG ID: 1 LAG Name: LAG1 LAG Type: LACP CURRENT MEMBERS

Unit 1

GE Port	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	X																							
GE Port	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

Unit 2

GE Port	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	X																							
GE Port	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

Unit 3

Unit 4

Unit 5

Unit 6

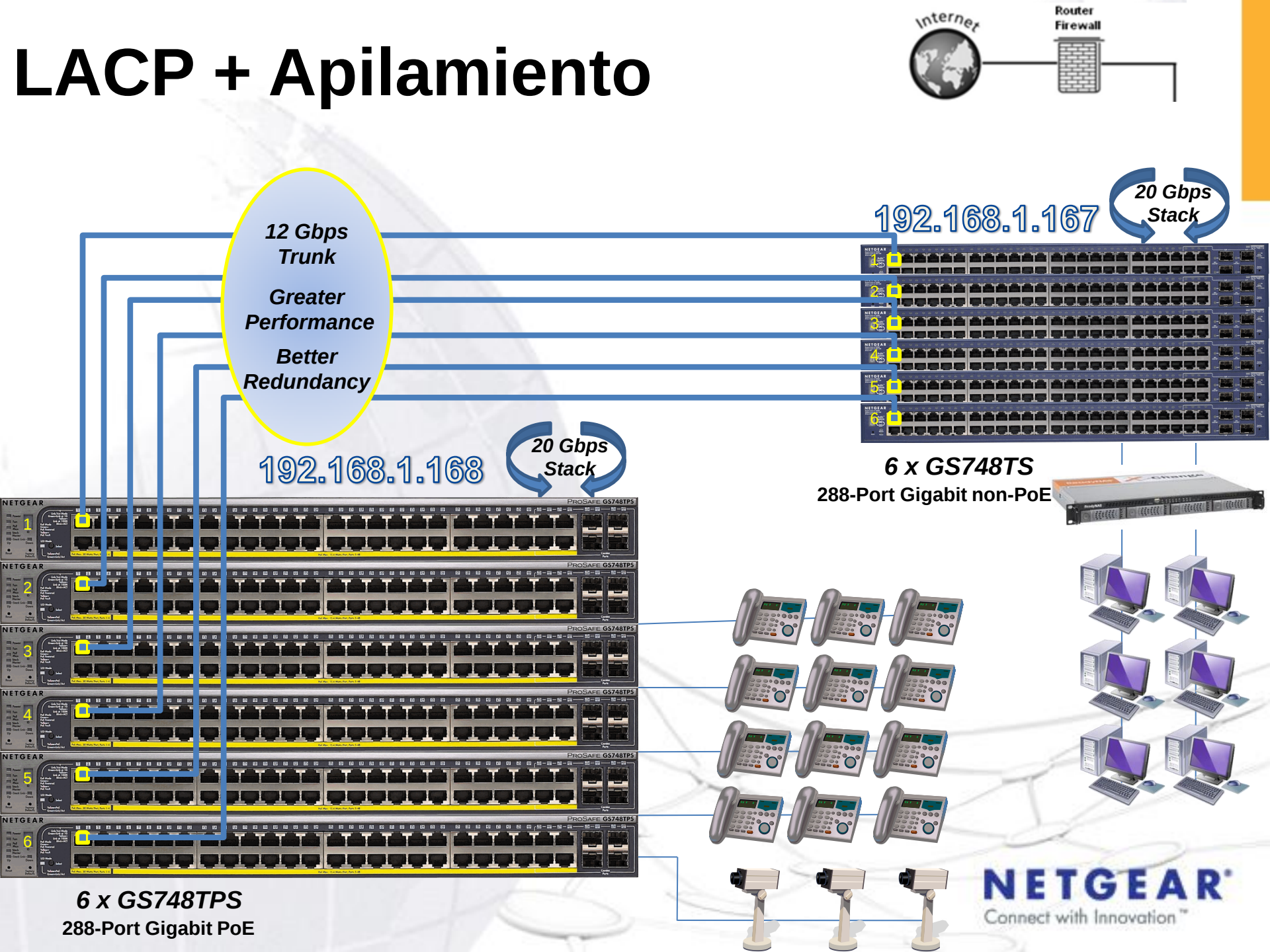
CANCEL APPLY

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Manage all ProSafe Gigabit Stackable Smart Switches as though they were only one unit !

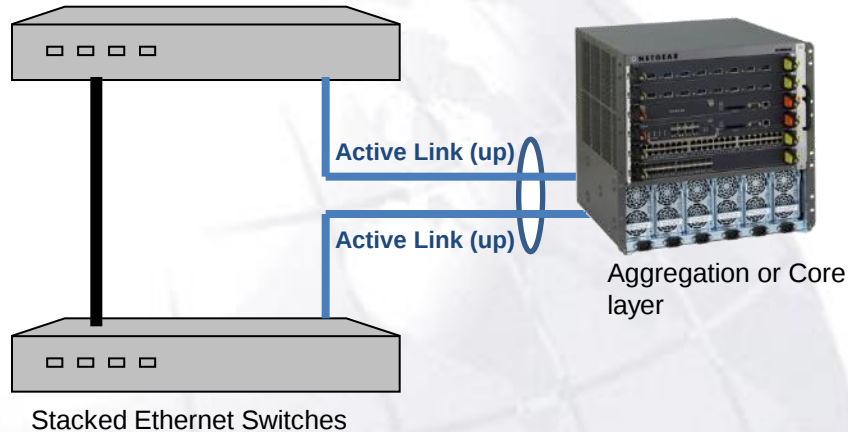
ProSafe Control Center provide comprehensive management through a streamlined Web interface that eases navigation:

LACP + Apilamiento

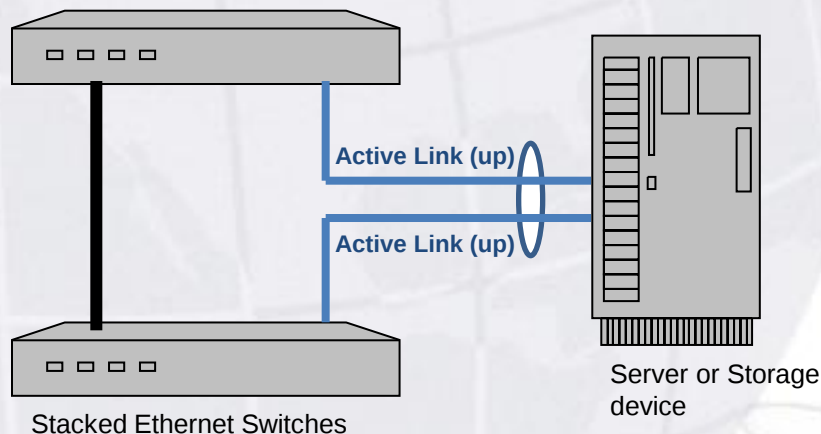


Virtual Chassis Stacking Technology

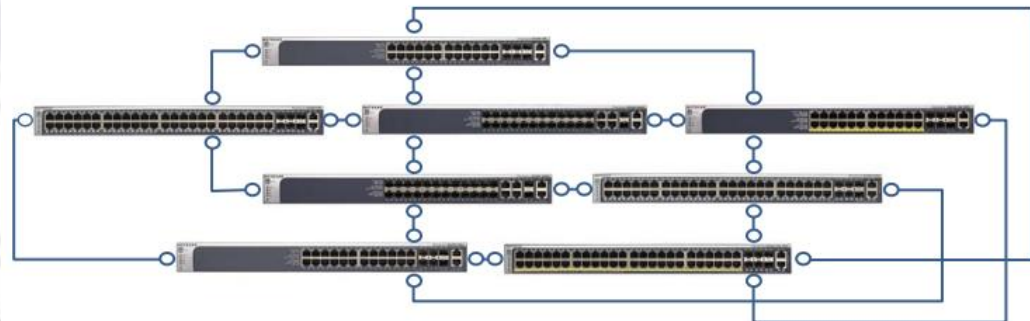
- **Smarter** network design



- **Smarter** server connection



- Local and/or Remote
- Sub-Second Master Failover
- Dual-ring: 384 Gbps
- Full-mesh: 704 Gbps



Virtual Chassis Stacking Technology

Benefits

- Single Fabric: VLANs, LAGs, Mirroring
- Scales Network Performance: load-balancing
- Scales Redundancy: loop-free connections

Flexibility

- Layer 2+ / Layer 3 mixed stacking
- GSM72xxPS retro-stacking
- GSM73xxSv2h1 retro-stacking

Topology

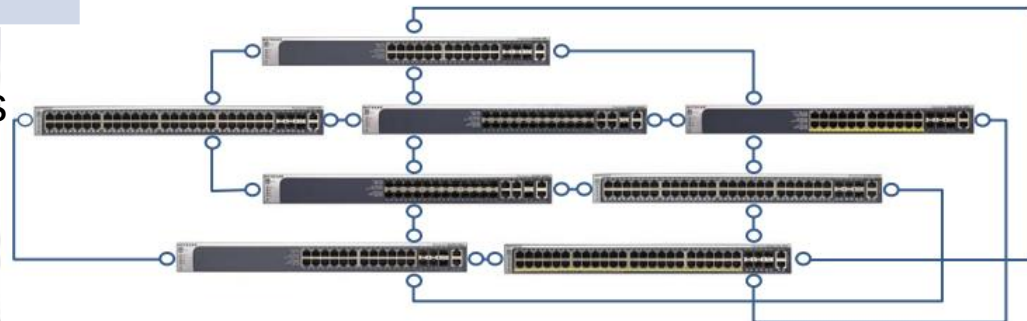
- Rear bays preset for zero-touch stacking

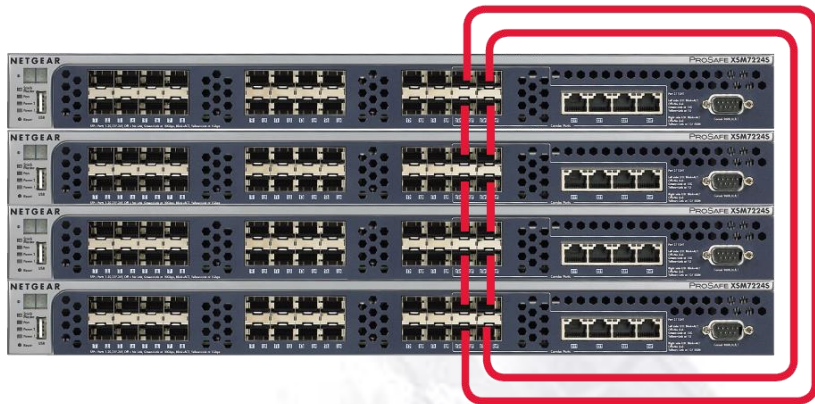
I/O Module Bays	PHY
AX742 (v1h3)	2 modules AX744 (CX4) + 1M cable Optional AXC743 (3M cable)
AX743	1 port SFP+
AX745	1 port 10GBase-T RJ45

- Front ports preset for 10GbE uplinks
- All Four 10GbE ports can be set up for Stacking or 10GbE uplinks



- Local / Remote
- Sub-Second Master Failover
- Dual-ring: 384 Gbps
- Full-mesh: 704 Gbps

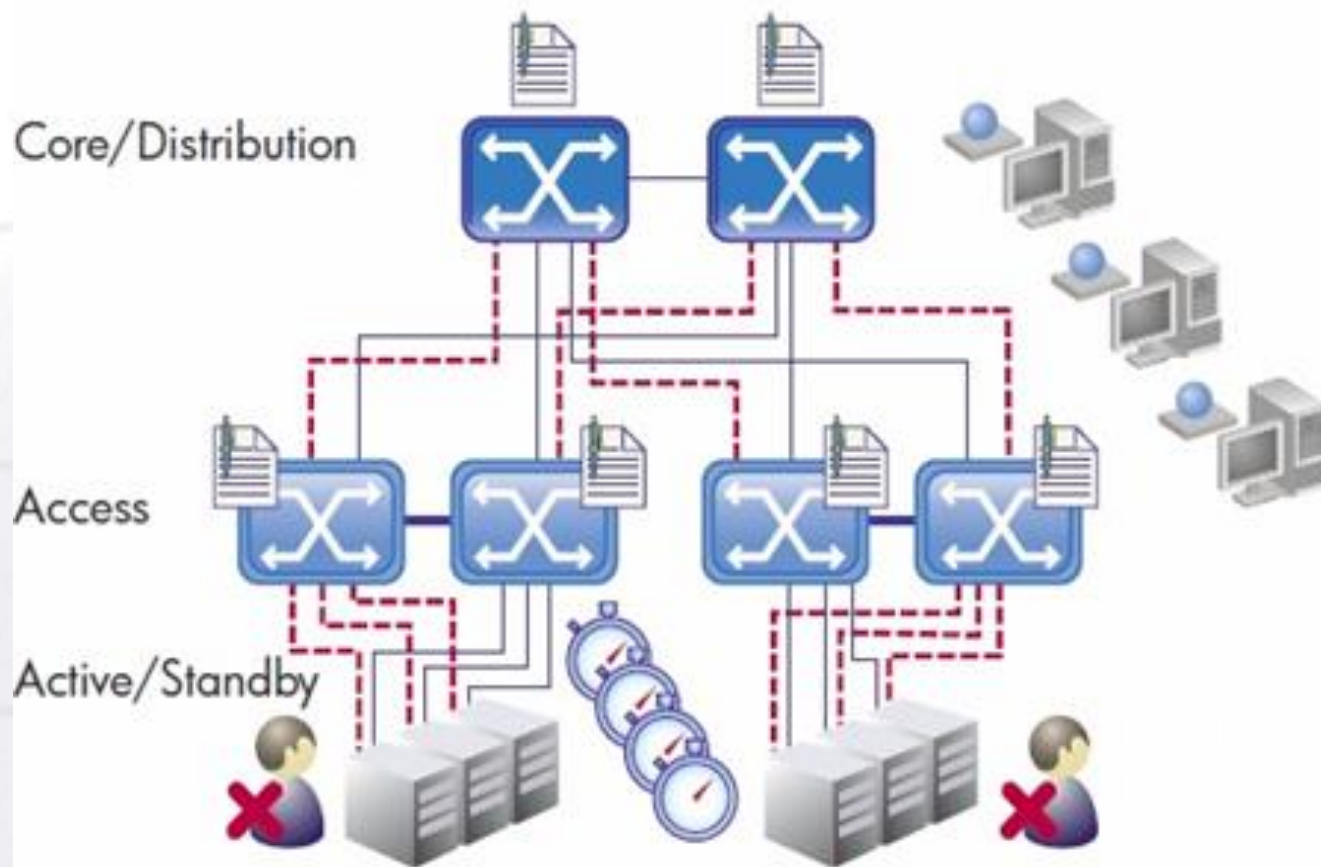




NETGEAR Hardware Stacking Technology

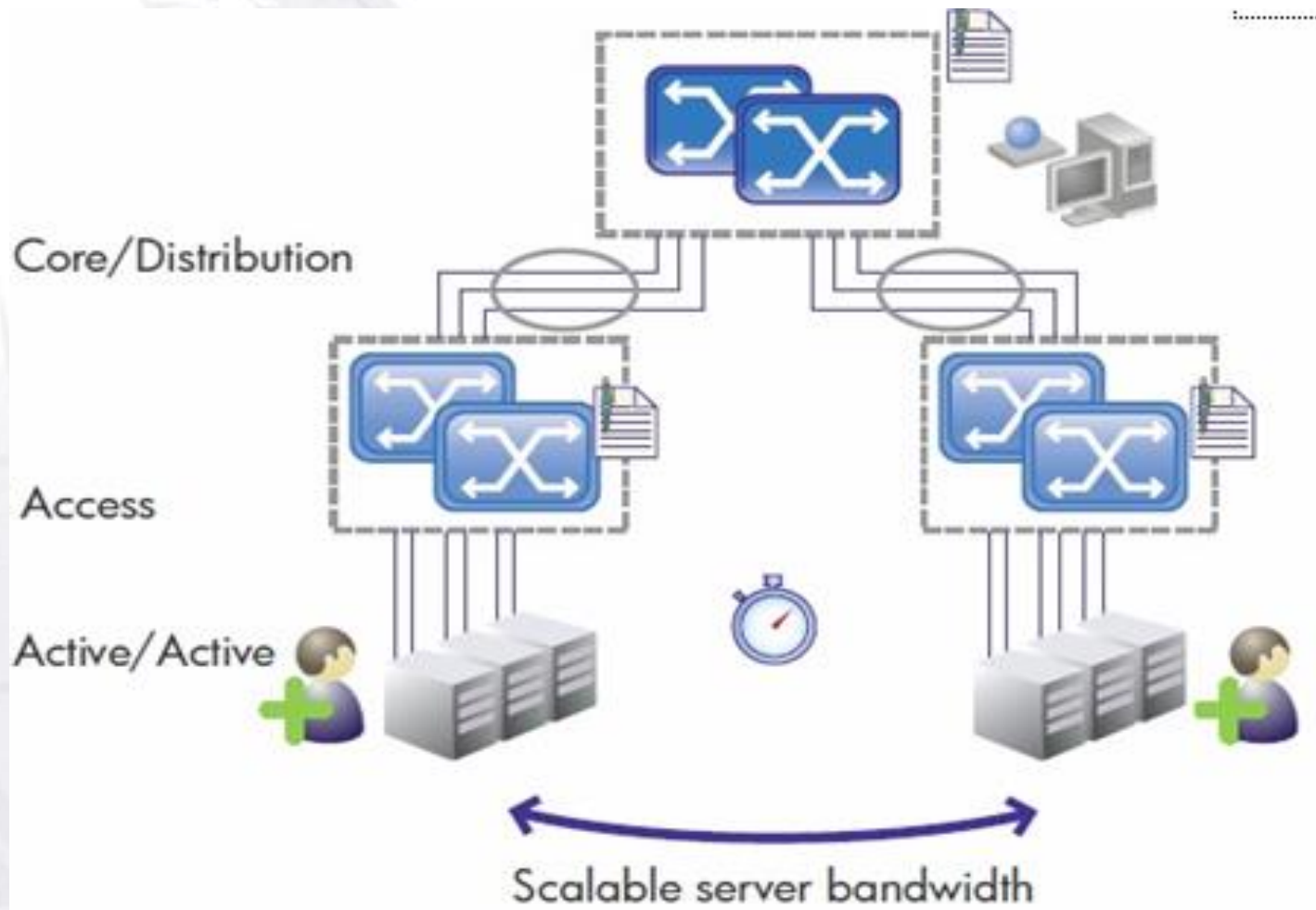
Benefits	NTGR Physical Stacking	Competitor's Switch Clustering or Virtual Stacking
Dedicated physical Stacking ports	4 or more	
Stacking Speed	80 Gbps or more	
Single IP address mgmt	✓	✓
Virtual Chassis, resilient topology	✓	
Hot swap, automatic replacement	✓	
Distributed Link Aggregation, LACP	✓	
One-to-any port mirroring	✓	
VLAN automatic propagation	✓	

Con SPT



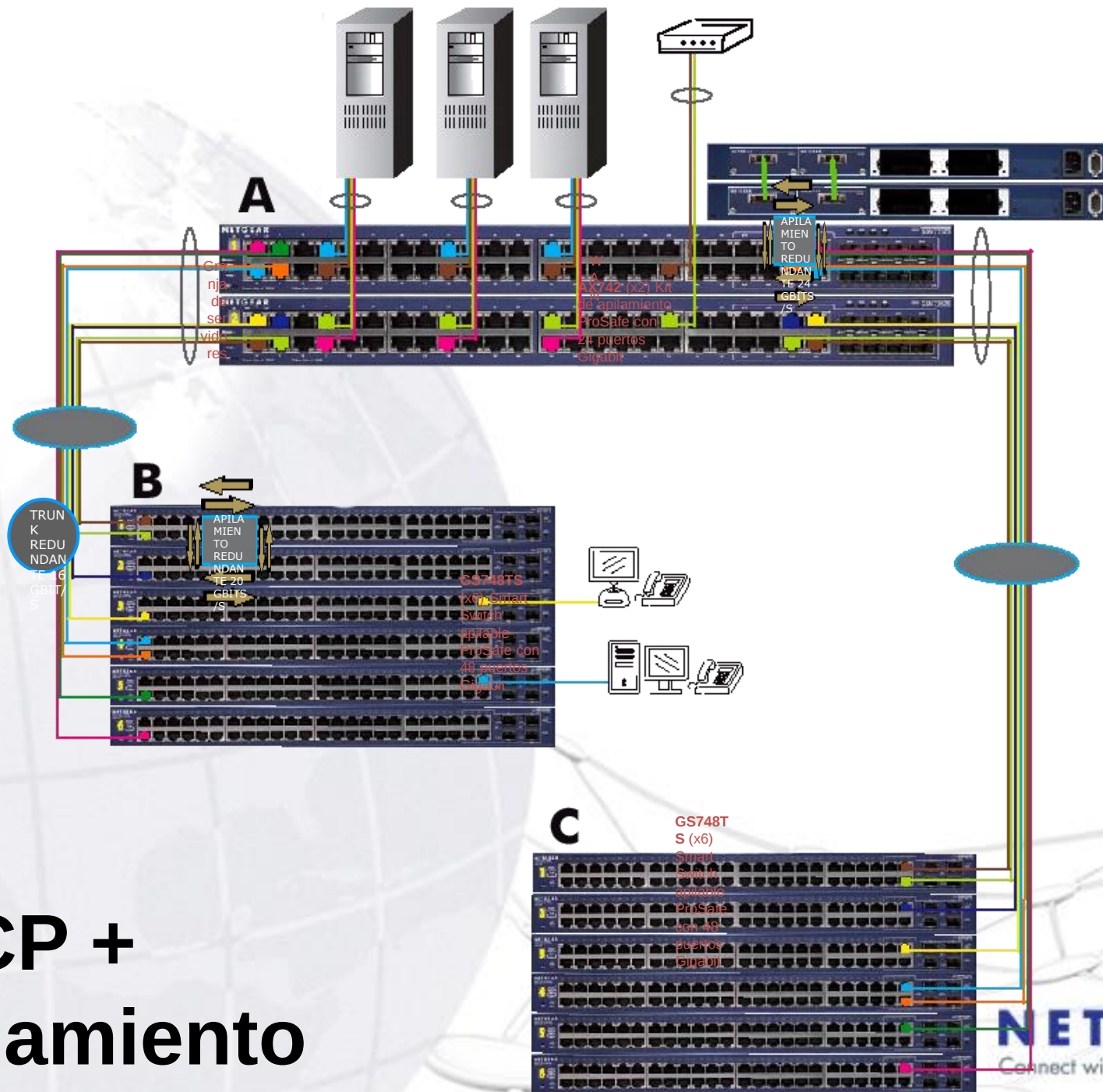
CON SPT

Sin PT



SIN SPT

LACP + Apilamiento



Necesidades Nuevas Redes

Segmentacion



Nuevo modelo

Antes:



Valor añadido



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VLAN = “Mini Switches”

VLAN 1



VLAN 2



VLAN 3



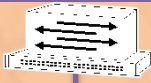
Hotel Infrastructure



WC9500 / 7520



AAA and AC GW



IP PBX



ReadyNAS / NVR

XCM8800



Cloud Management



Internet



M5300



FS728TS



GS724TS



Staff

M5300



FS728TS



GS724TS



Room

M5300



FS728TP



GS724TP

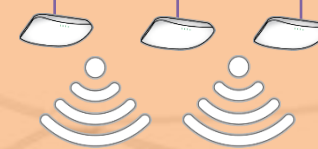


IP PBX

M5300



GS724TPS



WLAN

M5300



FS728TP



GS724TPS



Surveillance

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Necesidades Nuevas Redes



Priorizacion

A cartoon illustration of a man with blonde hair, wearing a blue shirt, resting his chin on his hand in a thinking pose. Above him is a purple thought bubble containing the word 'Priorizacion'. The background features a faint, stylized globe and a network diagram with nodes and connecting lines.

Mayor Velocidad



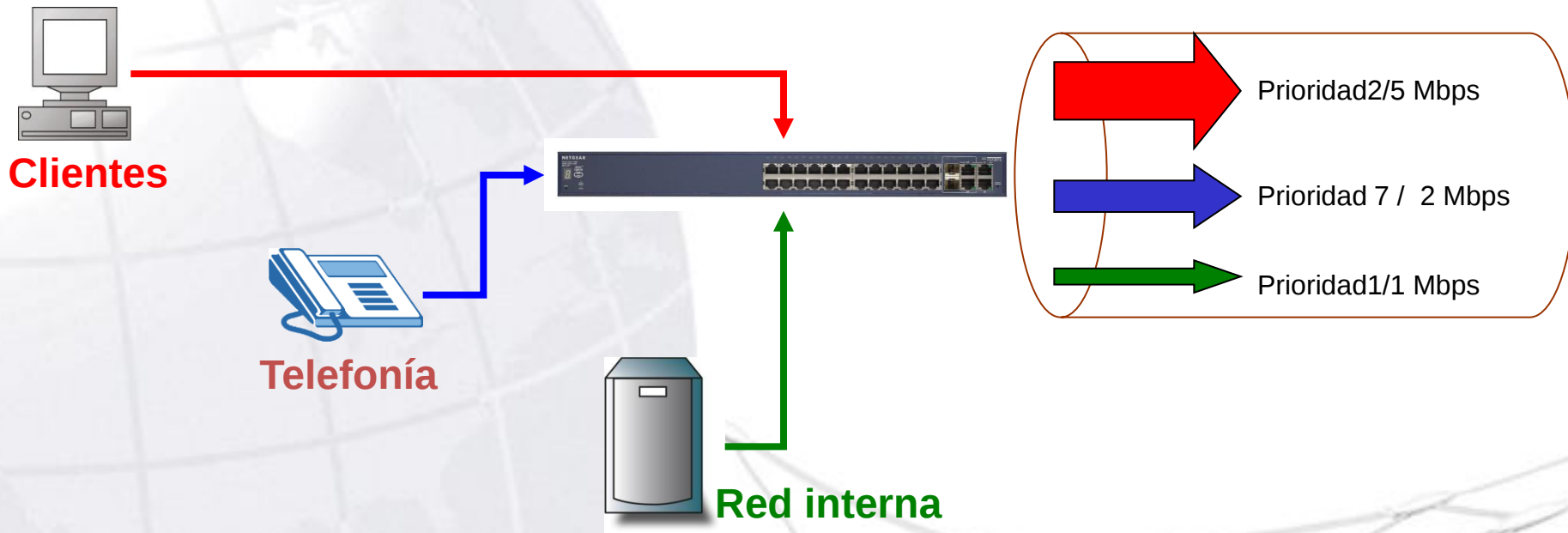
Today's WiFi



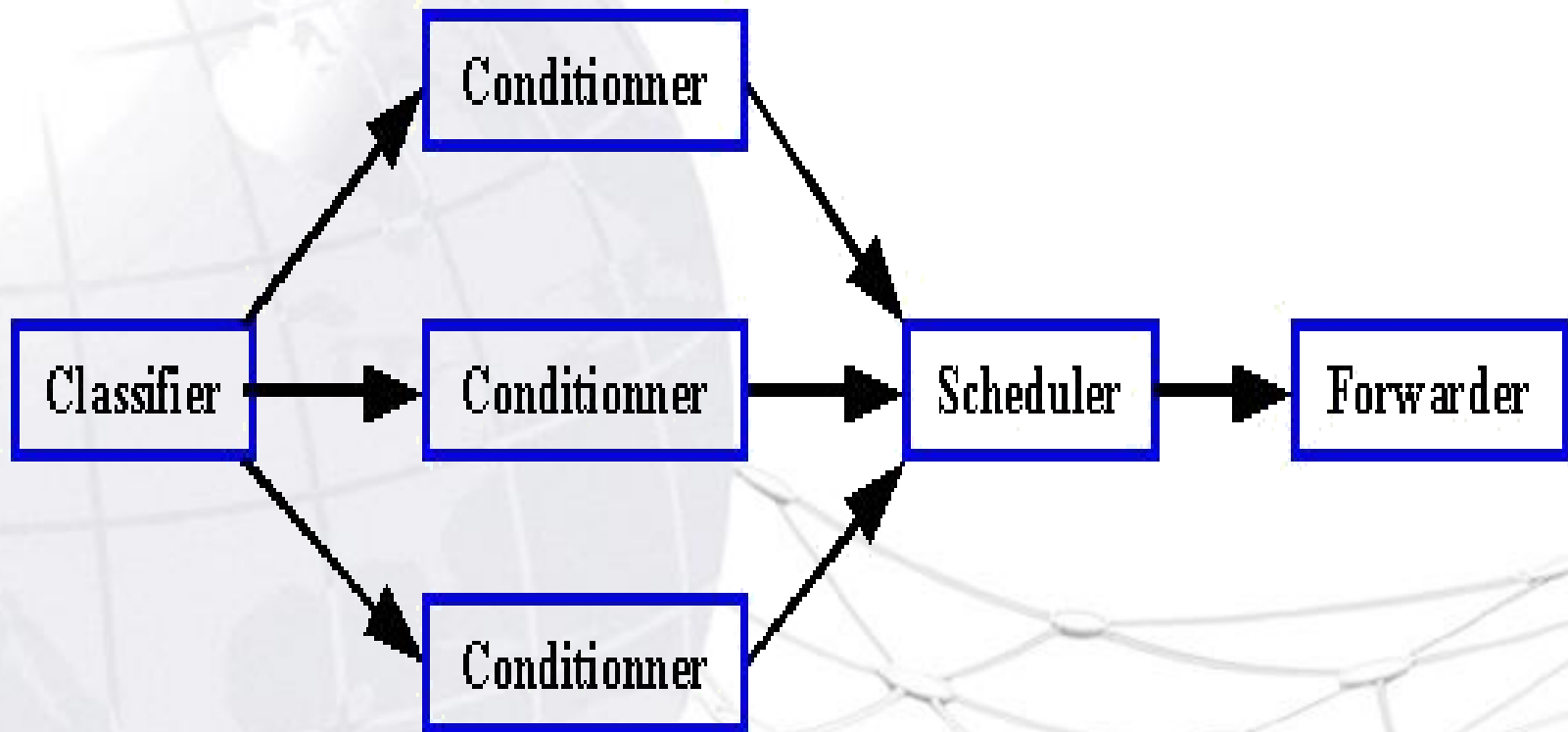
3x speed with 802.11ac

Situación ideal

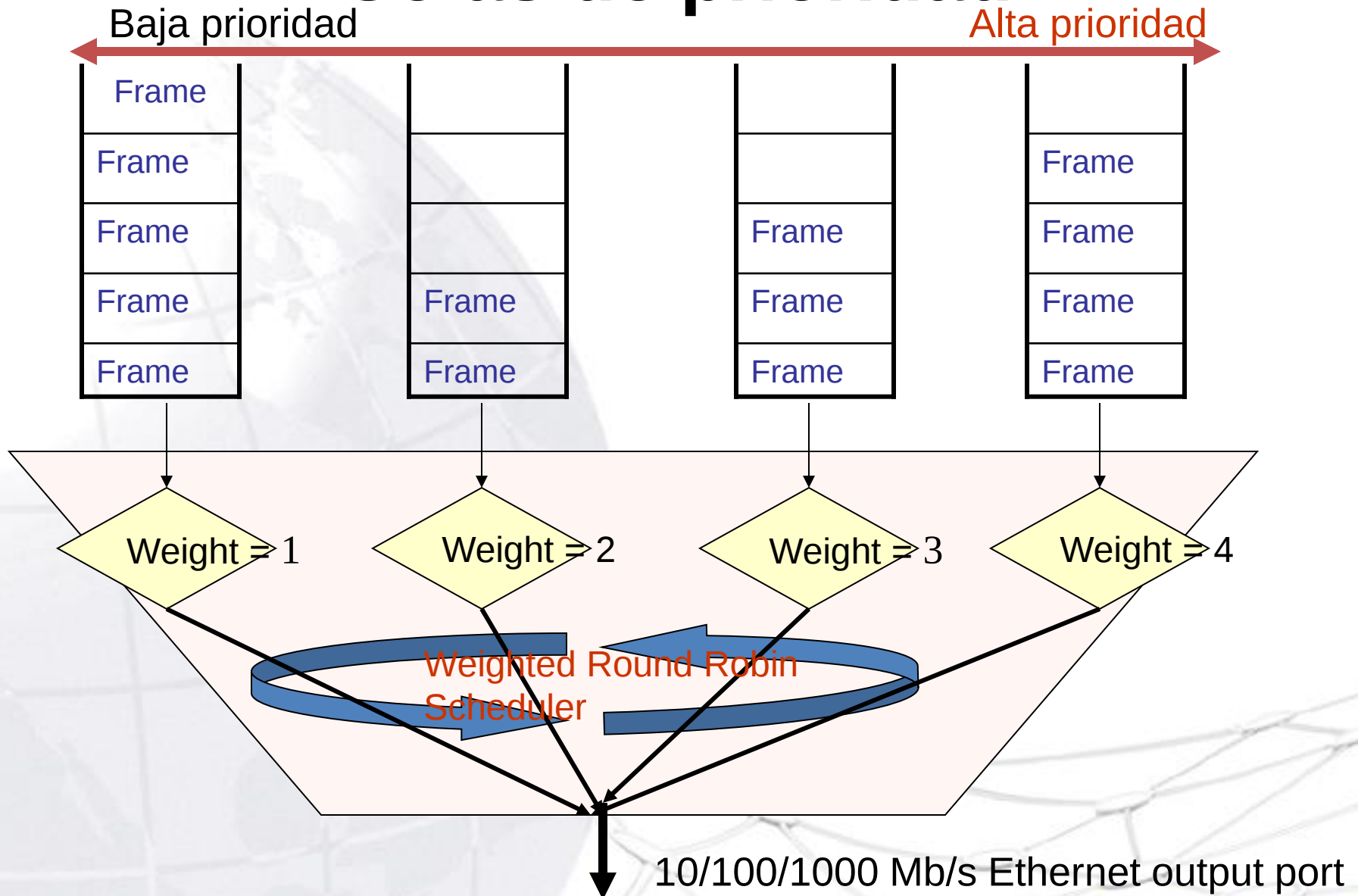
- Debemos por tanto priorizar y segmentar la red



Funcionamiento QoS



Colas de prioridad



NETGEAR Secure Remote Desktop Client

Netgear GS748TS - Windows Internet Explorer

http://172.22.25.25/home.htm

File Edit View Favorites Tools Help

Netgear GS748TS

Page Tools

NETGEAR

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GS748TS

48-port Gigabit Stackable Smart Switch

SystemSwitchingQoSSecurityMonitoringMaintenanceHelp

LOGOUT

CoS

> Basic

> Advanced

> CoS to Queue Mapping

> DSCP to Queue Mapping

CoS To Queue Mapping

CoS To Queue Mapping

CoS	Queue	CoS	Queue	CoS	Queue	CoS	Queue
0	Lowest	1	Lowest	2	Lowest	3	Lowest
4	Low	5	Low	6	Normal	7	Normal

Restore Default Mapping

Restore Defaults☐

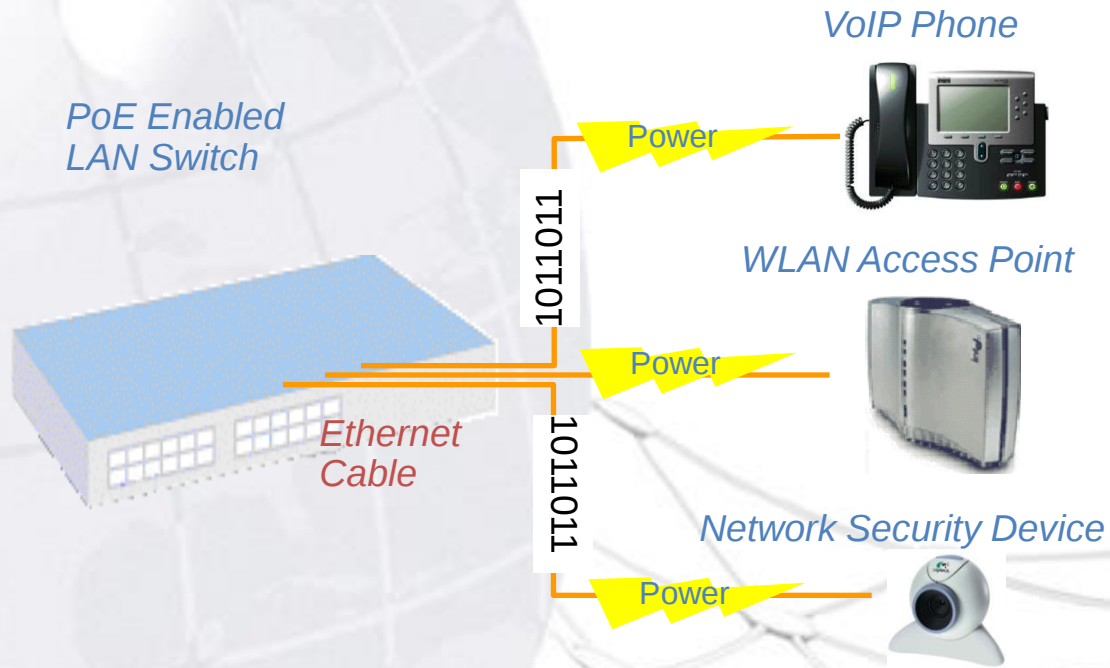
CANCEL

APPLY

Necesidades Nuevas Redes



PoE Overview

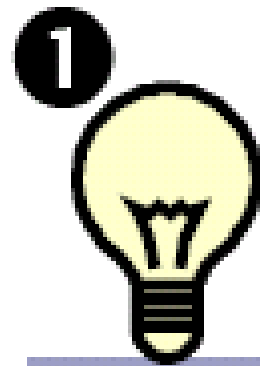


IEEE 802.3af Highlights

- PSE output: 350mA continuous, 44Vdc to 57Vdc.
- PSE continuous average output power: 15.4W min
- PD allowed consumed power: 12.95W max.



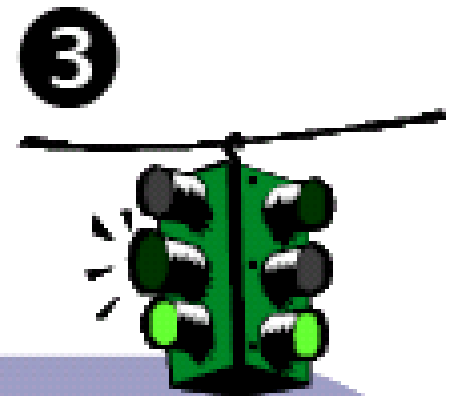
PoE Process



Detection



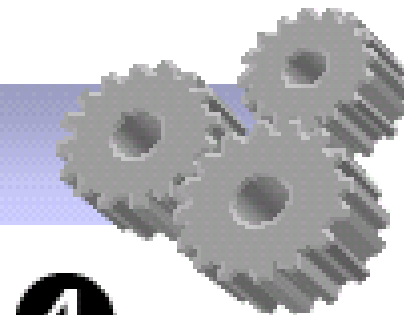
Classification
(Optional)



Startup



Disconnect



Operation

PoE (IEEE802.3af) y PoE Plus (IEEE802.3at)

- PoE

- Existe una gran demanda existente (AP, Telefonos IP, Camaras IP)
- En 2008 los switches Gigabit PoE superaron los Fast Ethernet PoE
- Con Gigabit PoE utilizamos todos los pares del RJ-45

- PoE Plus

- Maxima Potencia(24W or mas) sobre CAT3 y superiores
- IEEE802.3at: Será ratificado en unos meses
- Compatibilidad con equipos PoE
- Utilización de ajuste de potencia mediante LLDP-MED

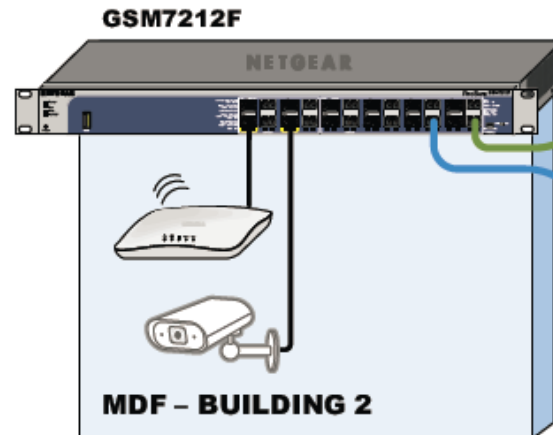
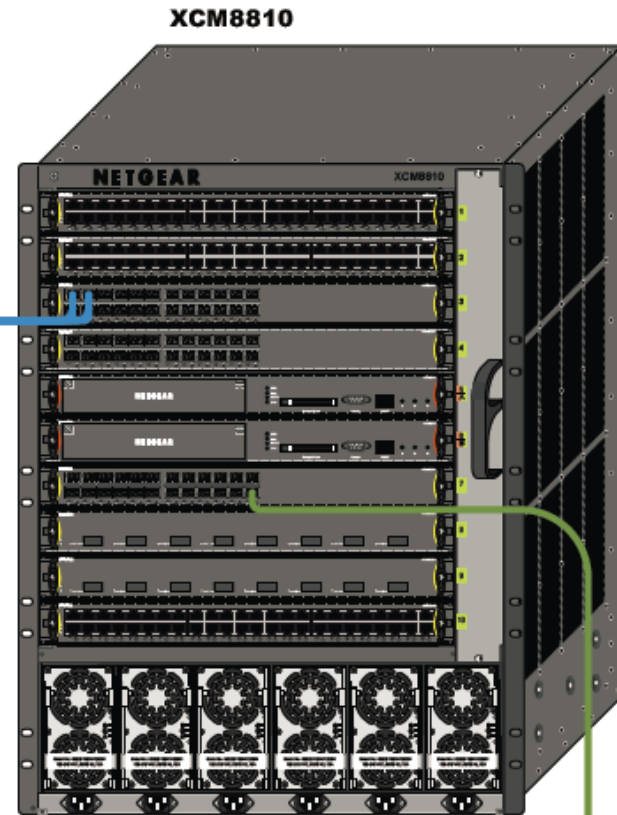
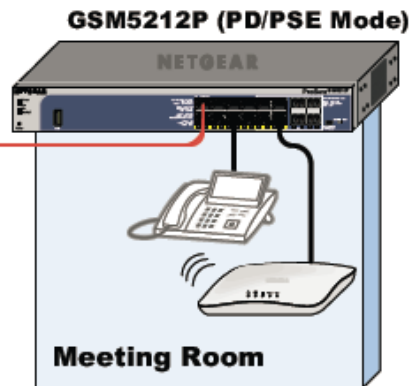
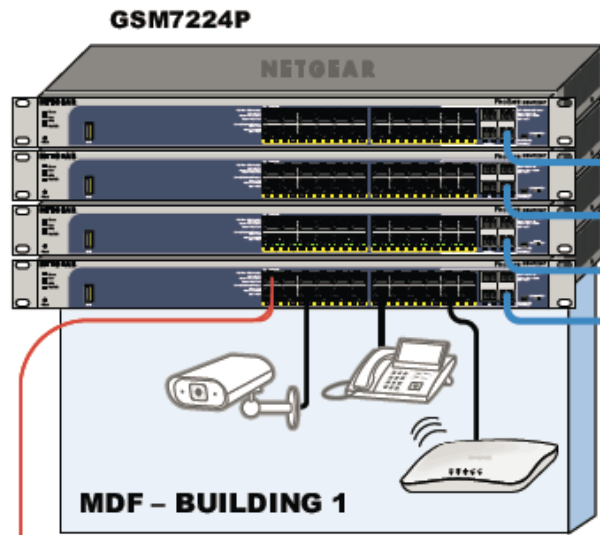
Aplicaciones para PoE+ -802.3at

- Wifi (Doble banda IEEE802.11n)
 - Con ancho de banda hasta 600Mbps
 - Ya existe equipamiento que soporta y requiere PoE+
- VideoVigilancia (Pan-Tilt-Zoom Cameras)
- Sistemas WIMAX
- Sistemas de Comunicacion
 - Sistemas de videoconferencia
 - Video teléfonos
 - Thin clients
 - Sistemas distribuidos



Classes de PD PoE

Class	PD Current - Classification Period [mA]	PD Power - Operation Period [W]	Note
0	0 - 4	0.44 -12.95	Default
1	9 - 12	0.44 -3.84	Optional
2	17 - 20	3.84 -6.49	Optional
3	26 - 30	6.49 -12.95	Optional
4	36 - 44	Future use	Future use

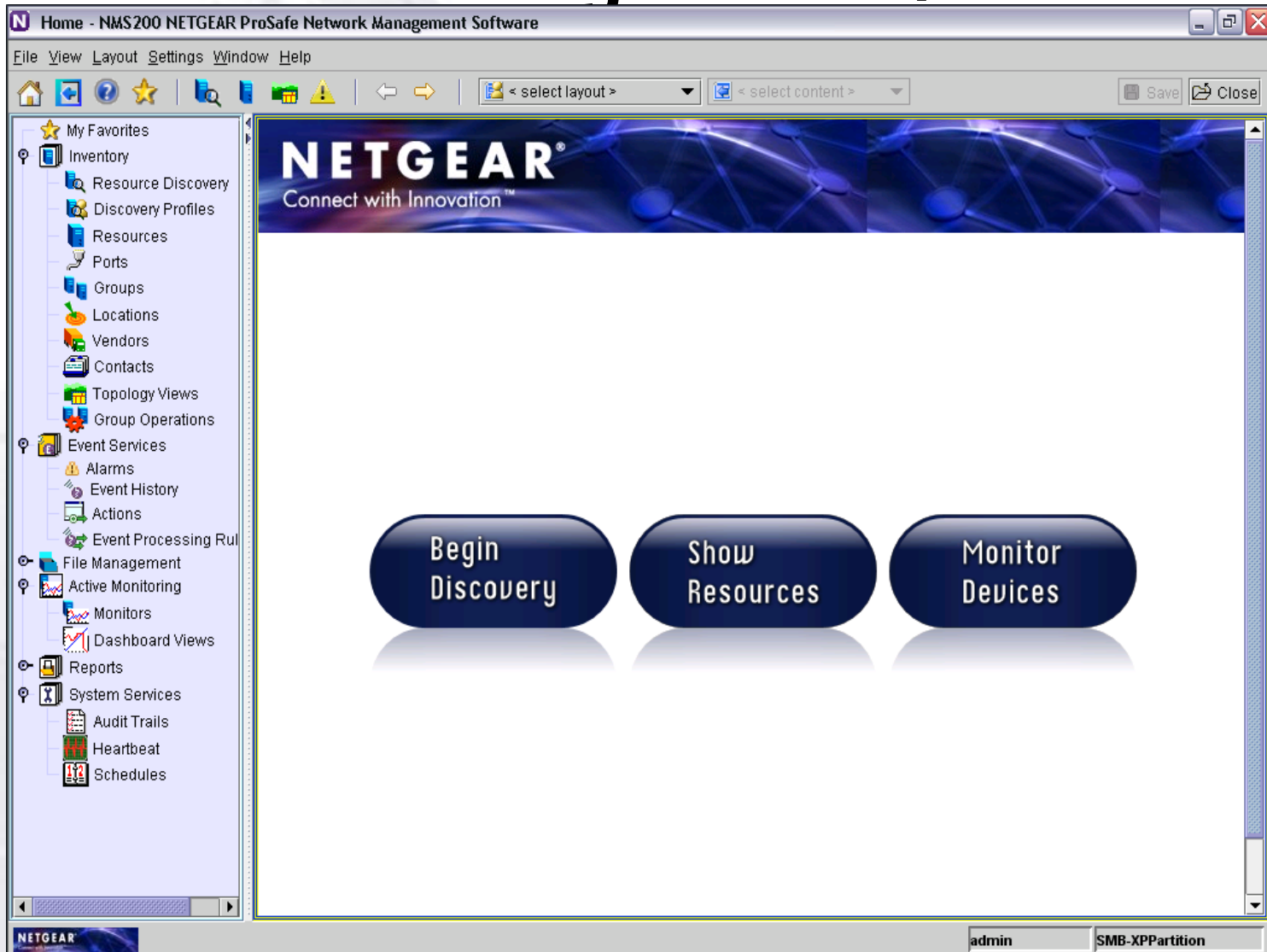


Requerimientos Implantacion



NMS200

www.netgear.com/nms200



NMS200

Begin
Discovery

Show
Resources

Monitor
Devices

DESCUBRE

- Descubre los diferentes de red
- Soporta diferentes protocolos

CONFIGURA

- Configuración centralizada
- Programación de upgrade de firmware
- Acceso directo por CLI o GUI a los equipos

MONITORIZA

- Posibles cambios de infraestructura
- Programación de alarmas

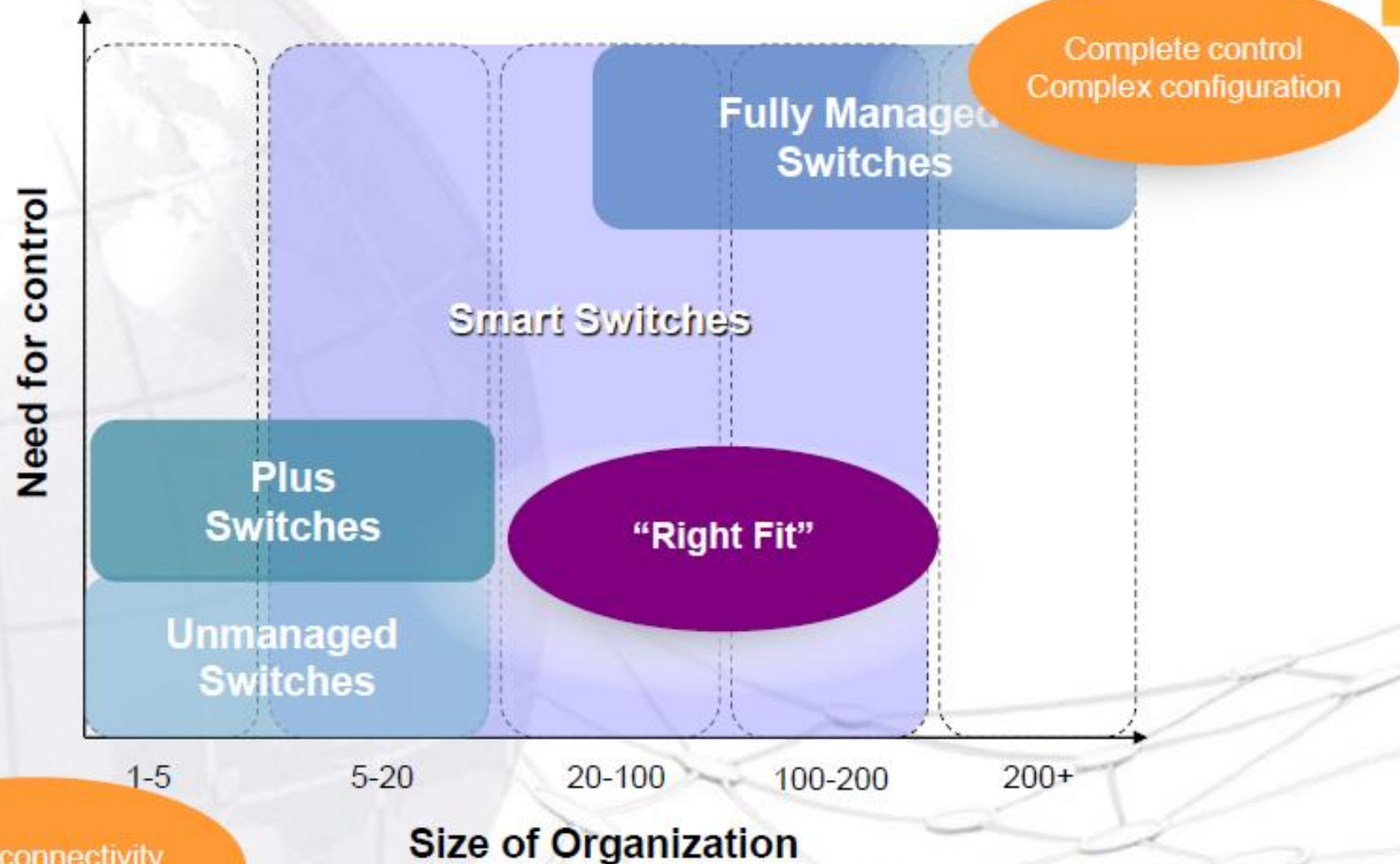
Monitorizacion NMS200





Implementacion Redes Convergentes

Business Switching Solutions

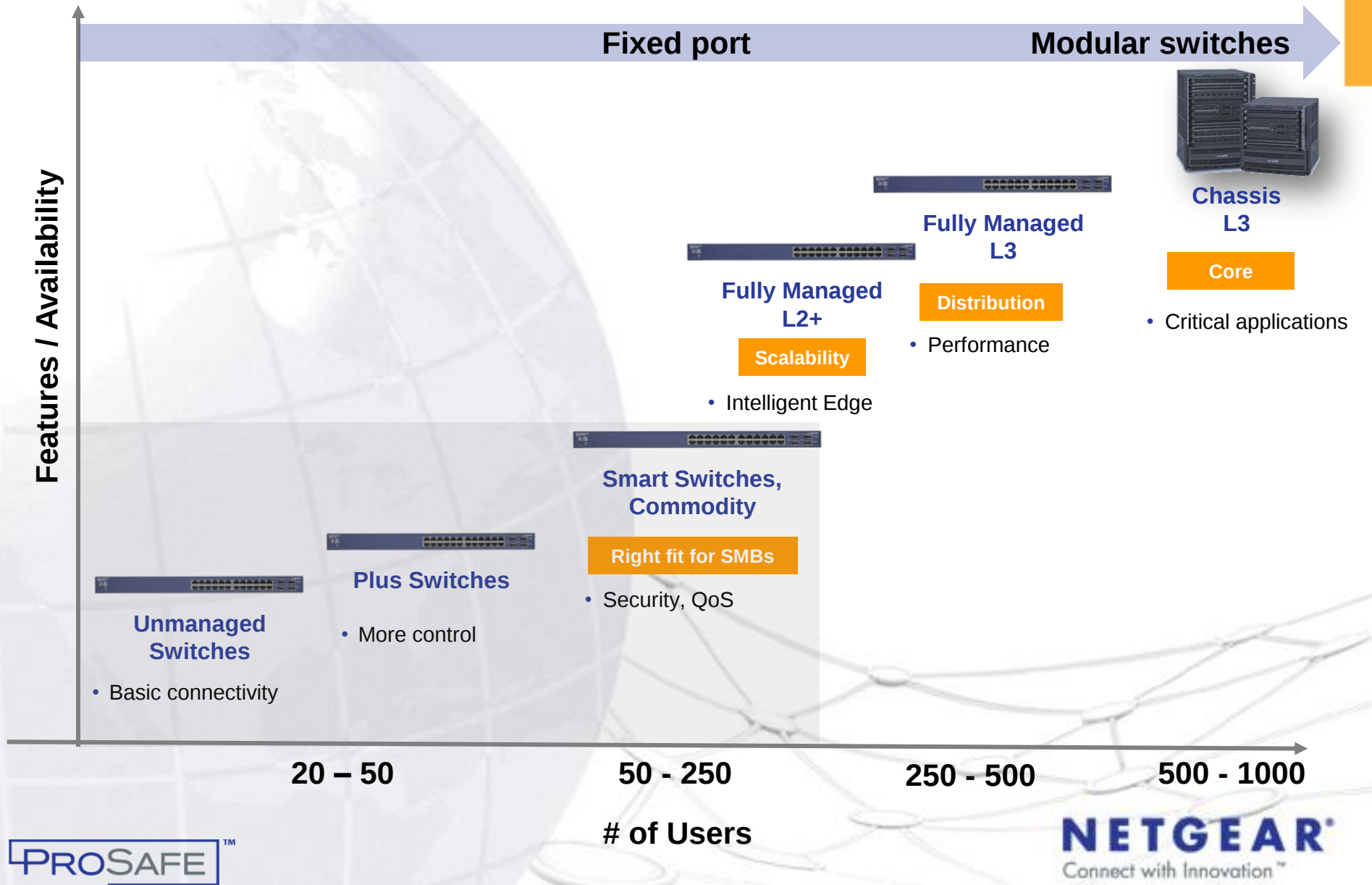


NETGEAR

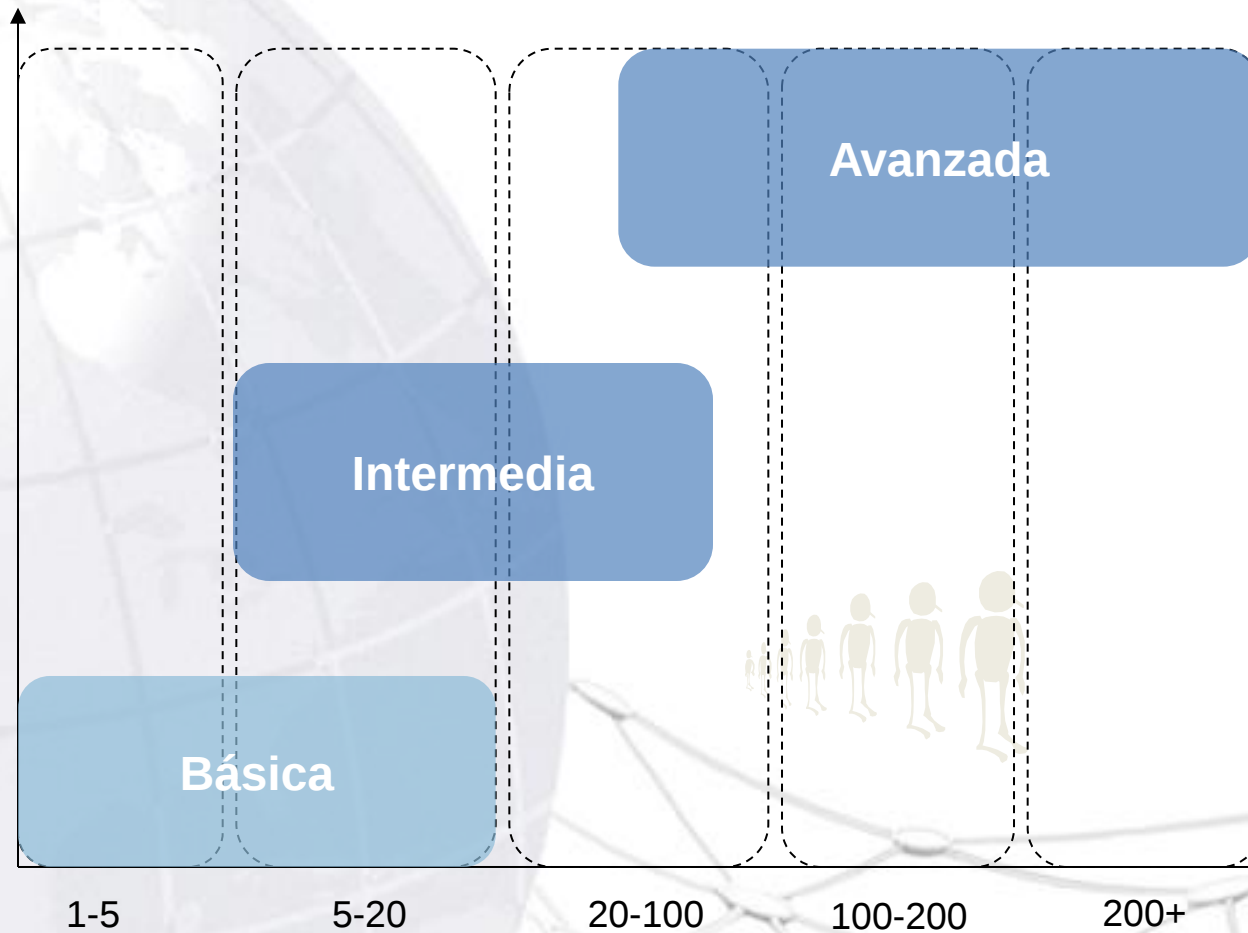
Connect with Innovation™

Connect with Innovation™

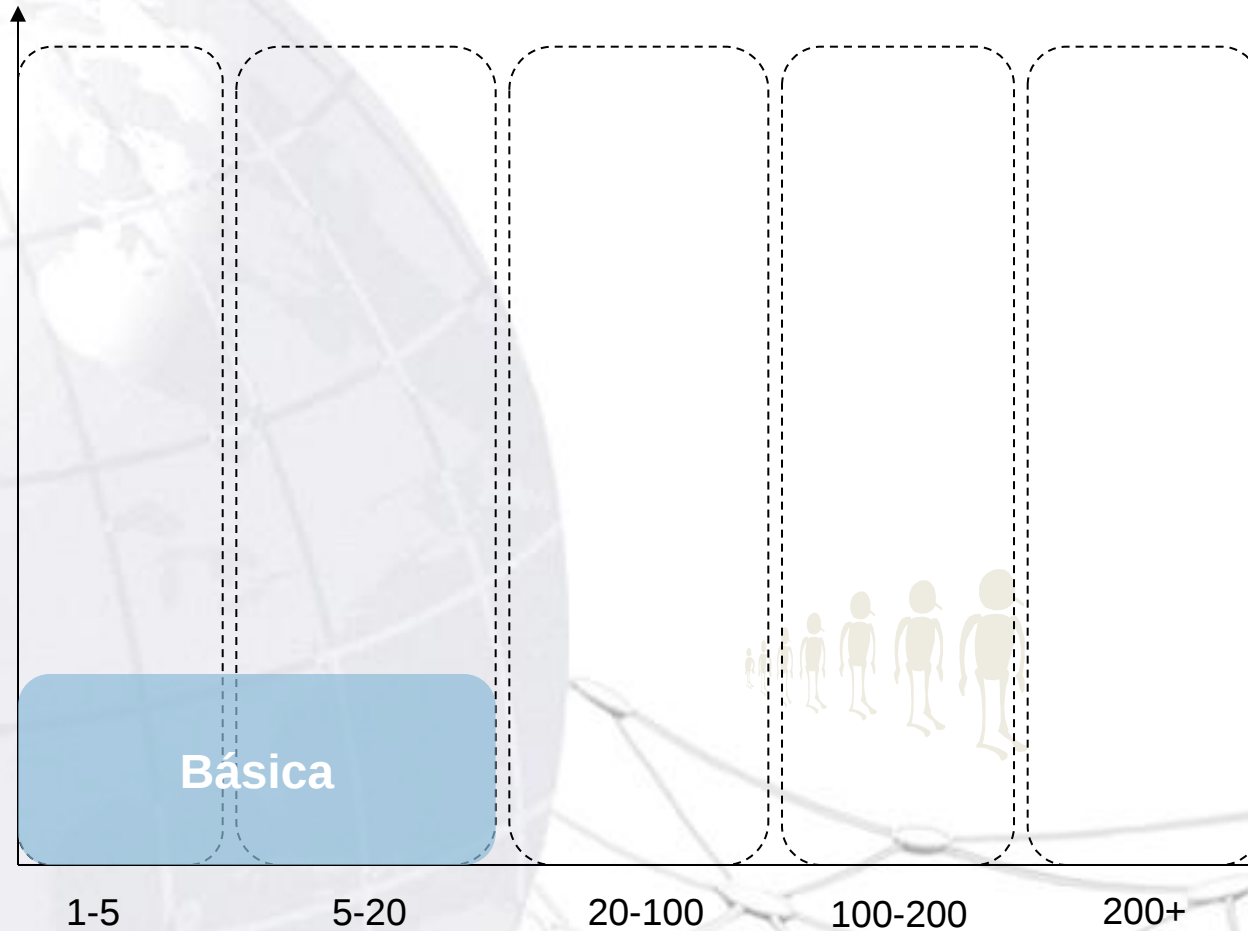
Business Switching Solutions



Segmentacion LANs : Soluciones



Segmentacion LANs : Soluciones

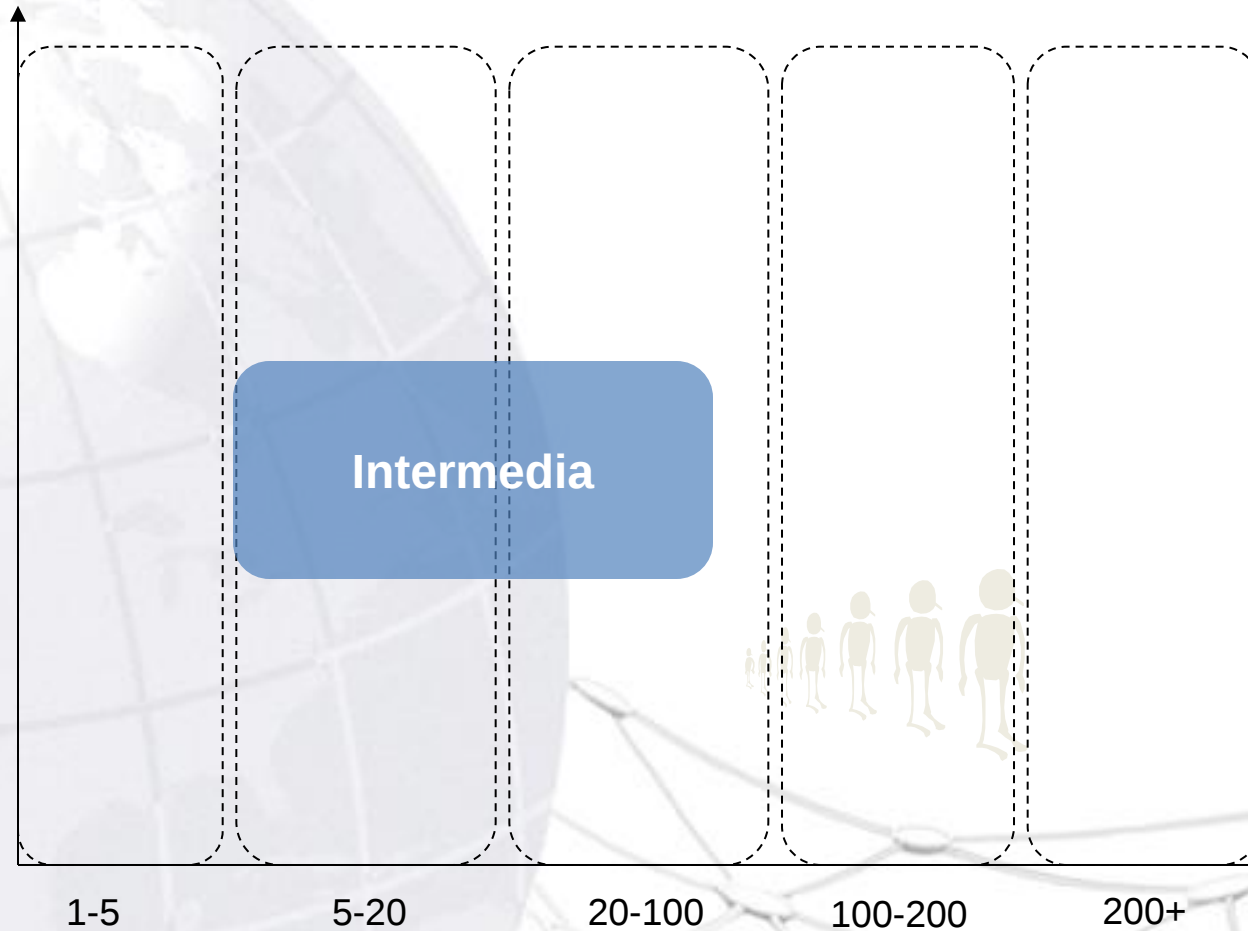


Equipamiento

- Switch :
 - ProSAFE Plus
 - Smart Switch
- Router Firewall (sin VLANs):
 - FVS318G
 - FVS336G/FVS318G/FVX538
 - Cualquier otro router



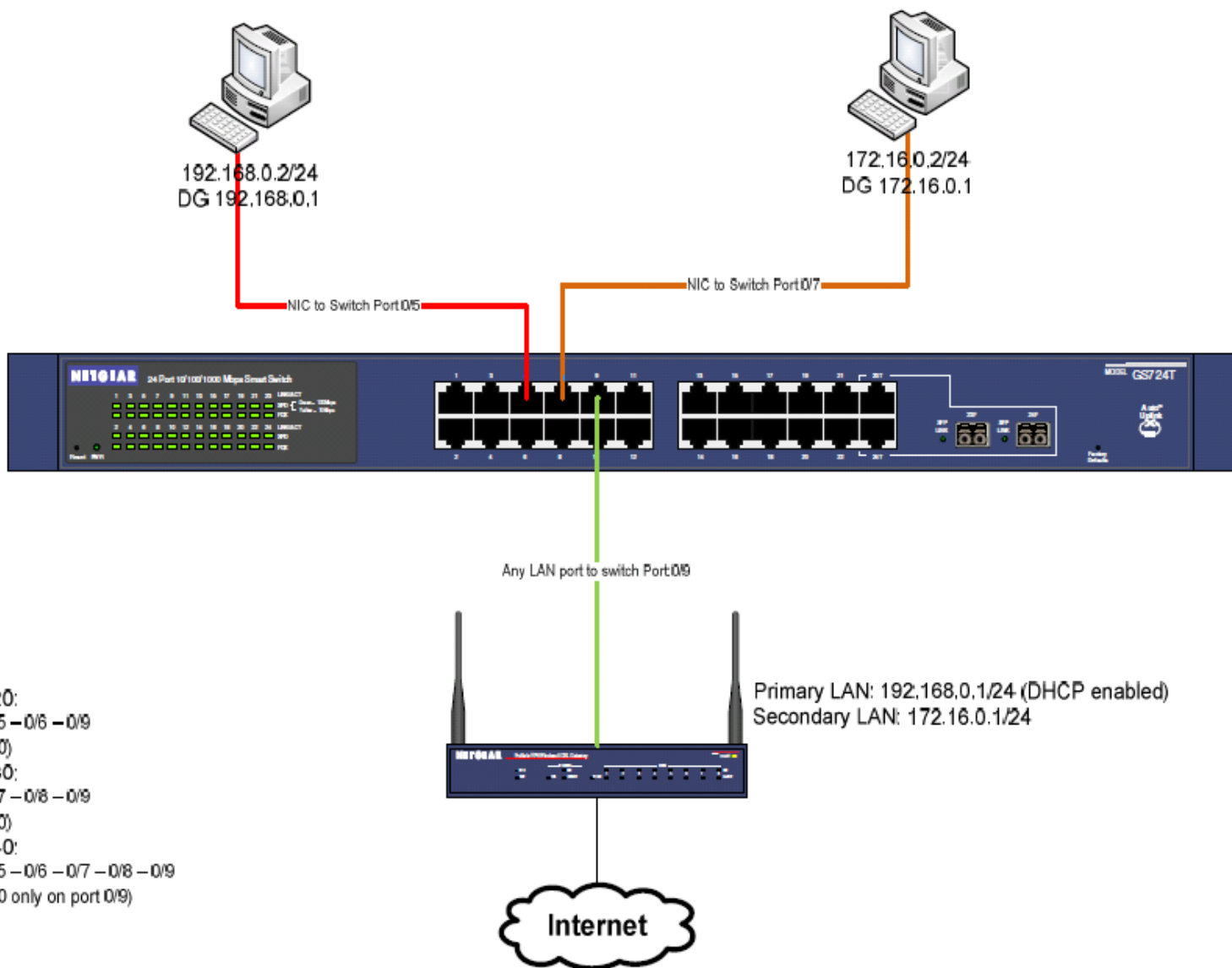
Segmentacion LANs : Soluciones



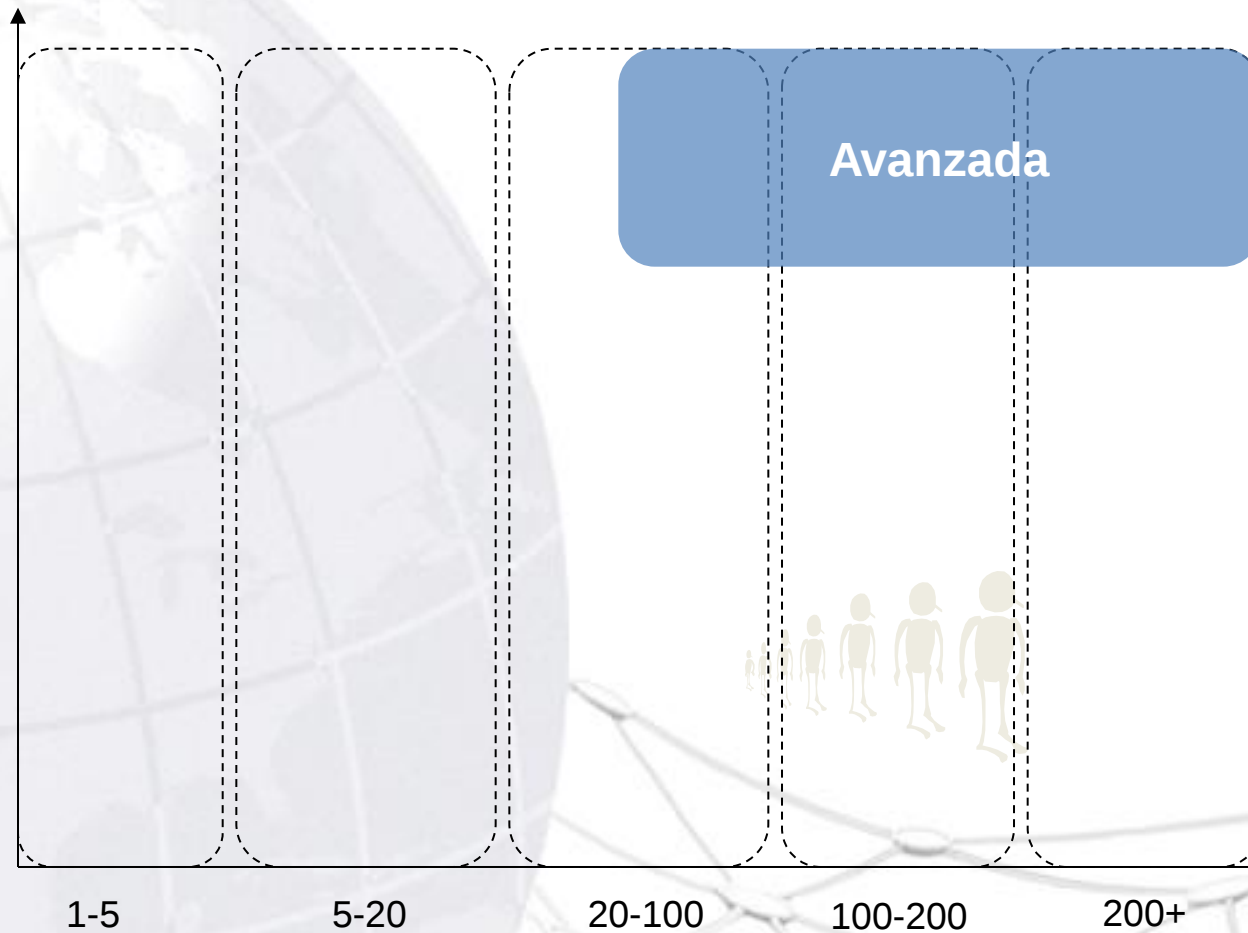
Equipamiento

- Switch :
 - Smart Switch
- Router Firewall (con VLANs):
 - UTM 5/10/25/50/150
 - SRX5308





Segmentacion LANs : Soluciones



Equipamiento

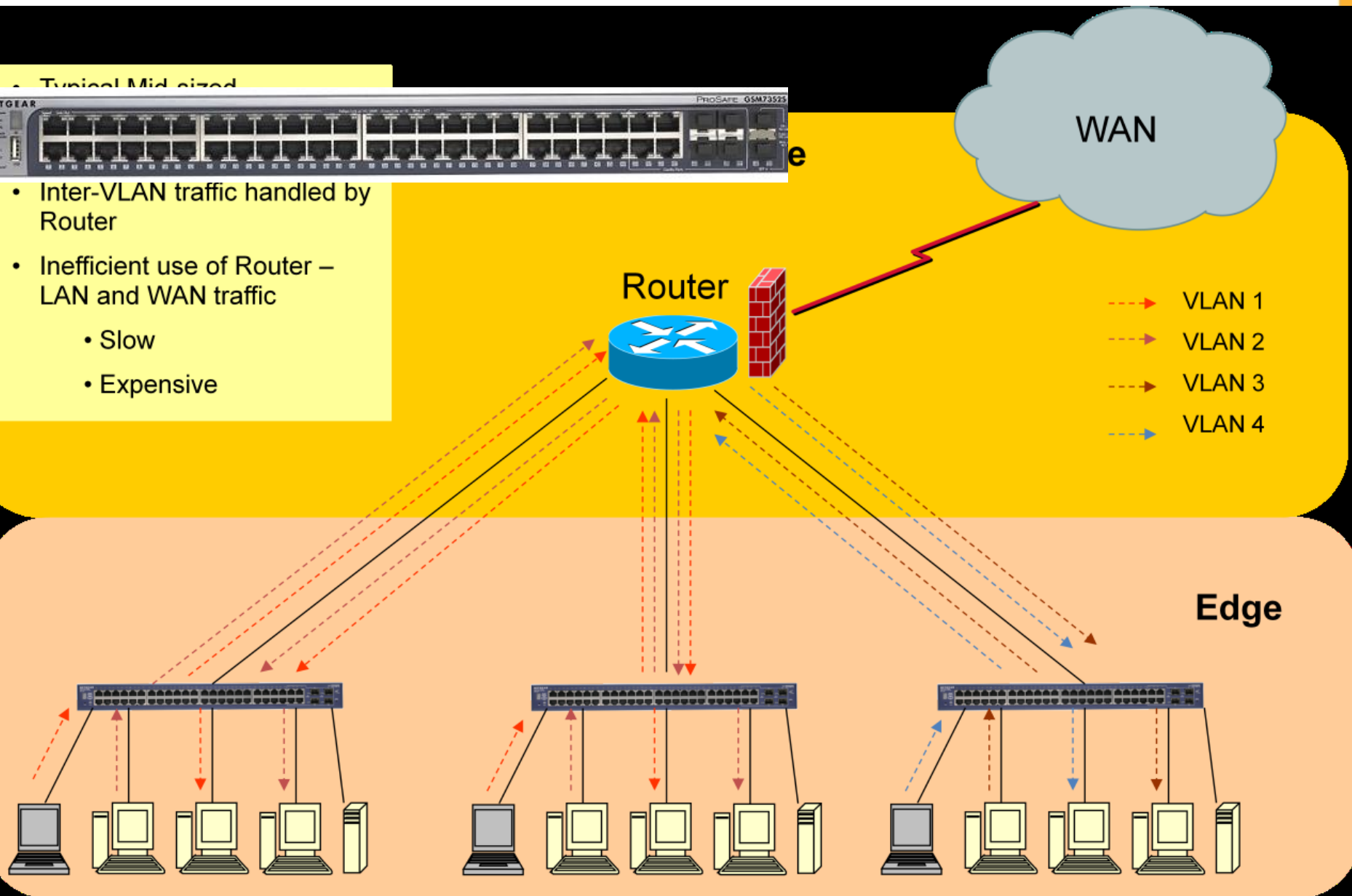
- Switch :
 - Smart Switches
 - Managed Switch
- Switch Capa 3
 - GSM7224/GSM7352S
 - GSM7352S



Typical Mid-sized



- Inter-VLAN traffic handled by Router
- Inefficient use of Router – LAN and WAN traffic
 - Slow
 - Expensive



NUEVO PORTAL PARTNERS: powershift.netgear.es

The screenshot shows a web browser window displaying the Netgear PowerShift Partner Portal. The browser's address bar shows the URL `powershift.netgear.es/et.cfm`. The website has a blue header with the Netgear logo and the tagline "Connect with Innovation™". To the right of the logo is a search bar with "Quick Links" and "Enter Keywords" fields, and a "Go" button. Below the logo is the "POWERSHIFT Partner Program" logo. To the right of this are four buttons: "Ventas" (red), "Marketing" (orange), "Formación" (green), and "Soporte" (blue). A user is logged in, with the text "Bienvenido Daniel García | Sign Out" displayed. The main content area features the heading "Simply Smarter | Wireless" and the subtext "Get ready with the wireless solutions your customers demand." Below this is a large graphic with a central wireless signal icon and a padlock icon, flanked by arrows. Underneath the graphic are six icons representing different services: Wireless, Security, Storage, Switching, Training, and Newsletter Sign Up. At the bottom of the page, there is a "Página de inicio" button, a copyright notice "Copyright © 1996-2012 NETGEAR ©", and a navigation menu with links: "Sales | Collateral | Formación | Soporte | Wireless | Seguridad | Almacenamiento | Switching | Inicio". The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 13:07 on 15/11/2012.

PowerShift Partner Portal | x

← → ↻ powershift.netgear.es/et.cfm

NETGEAR®
Connect with Innovation™

Quick Links Enter Keywords Go

Bienvenido Daniel García | Sign Out

POWERSHIFT
Partner Program

Ventas Marketing Formación Soporte

Simply Smarter | Wireless

Get ready with the wireless solutions your customers demand.

WIRELESS SECURITY STORAGE SWITCHING TRAINING NEWSLETTER SIGN UP

[Edit this page](#) [Control content](#)

Página de inicio

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Sales | Collateral | Formación | Soporte | Wireless | Seguridad | Almacenamiento | Switching | Inicio

ES 100% 13:07 15/11/2012

Formaciones online cada semana



LUNES

12

NOV

09:30

Descubre la tecnología 10G con los nuevos switches gestionables

<http://netgear.adobeconnect.com/managed10gbps/>

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Connect with Innovation™ Partner Program

Gracias

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