



Tendencias en Redes Multiservicio para el Sector Educativo



Francisco Bolaños
SE, Public Sector/Educación
fbolanos@cisco.com



La Evolución de las aplicaciones

Centralizadas

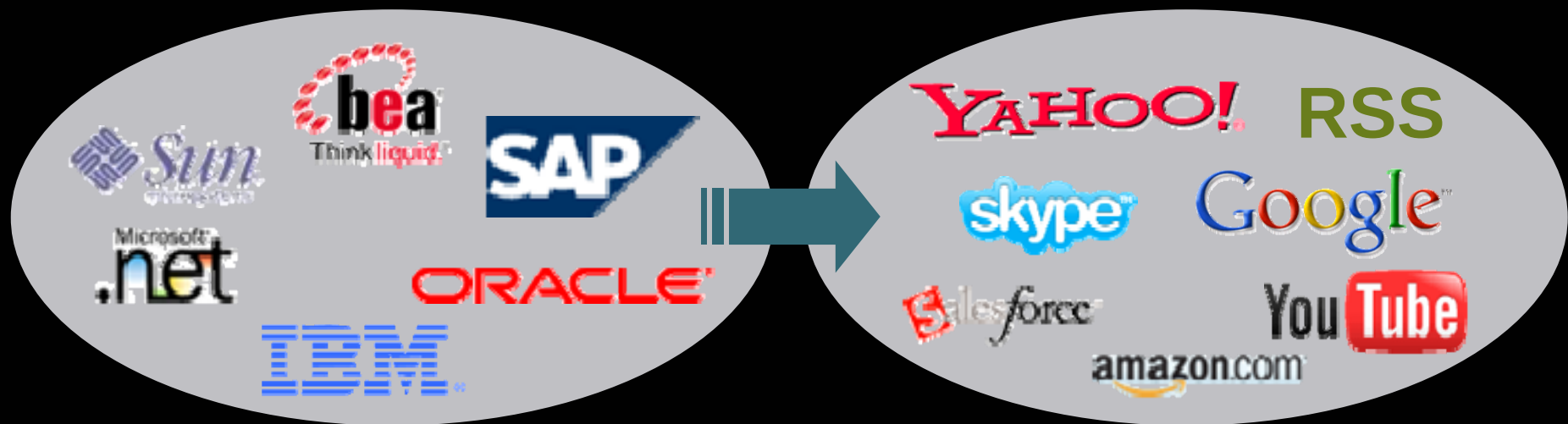
- Client-to-Server
- Data only
- Delays are OK
- Server-Centric
- Static documents
- Static repository
- Wired devices



Colaborativo

- Any-to-Any
- Multimedia
- Real-time
- Server-Less or Server-Assisted
- Shared information
- Dynamic sharing
- Wired and Wireless devices

Evolución de las aplicaciones de negocio



- Basadas en Arquitecturas ambiente controlado

- Programación libre/no controladas

- Adopción con la Internet

Ambos tipos de aplicaciones conviven en la red de manera simultanea!

La red como plataforma de servicios



Business Agility

Company Differentiation

Process Simplification

Business

“SONA es una arquitectura de referencia para conectar los servicios de red con las aplicaciones para poder entregar soluciones de negocios.”

Technology
Architecture

Consolidation

Virtualization

Automation

Inteligencia de la Red

La inteligencia en la red permite la reutilización de los recursos



Applications

Firewall

SBC

Call Center

Email

ERP

Voice Mail

WRES

Anti-SPAM

Patch Backup Updates

Replication

Mobile Multicast Email

NCRSB

Wireless Mgmt

OS

Message Archiving

Load Balancing

Web Virtualization

Network Systems

Campus

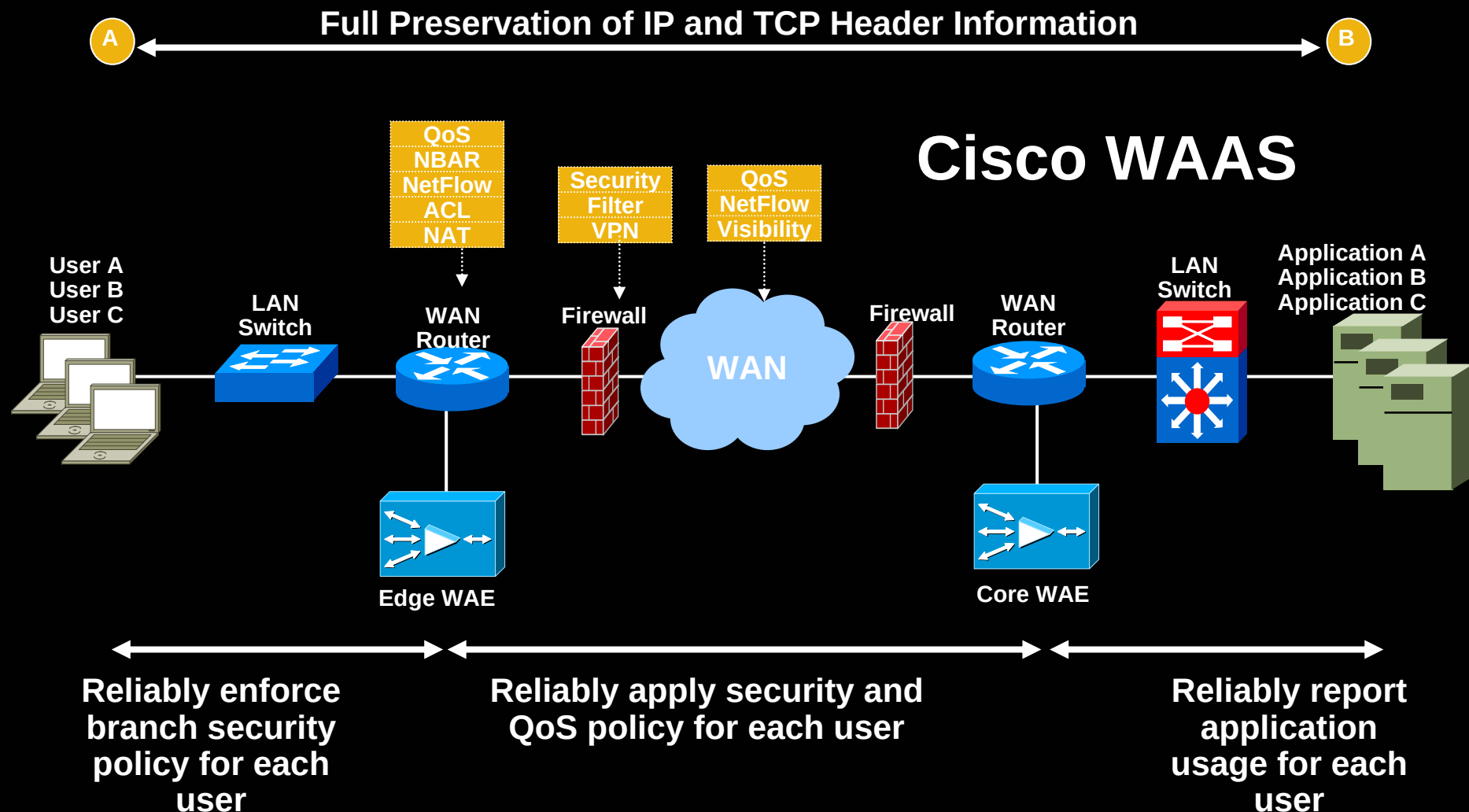
Data Center

Branch

Tendencias en conectividad WAN (WAAS)



Wide Area Application Systems (WAAS)



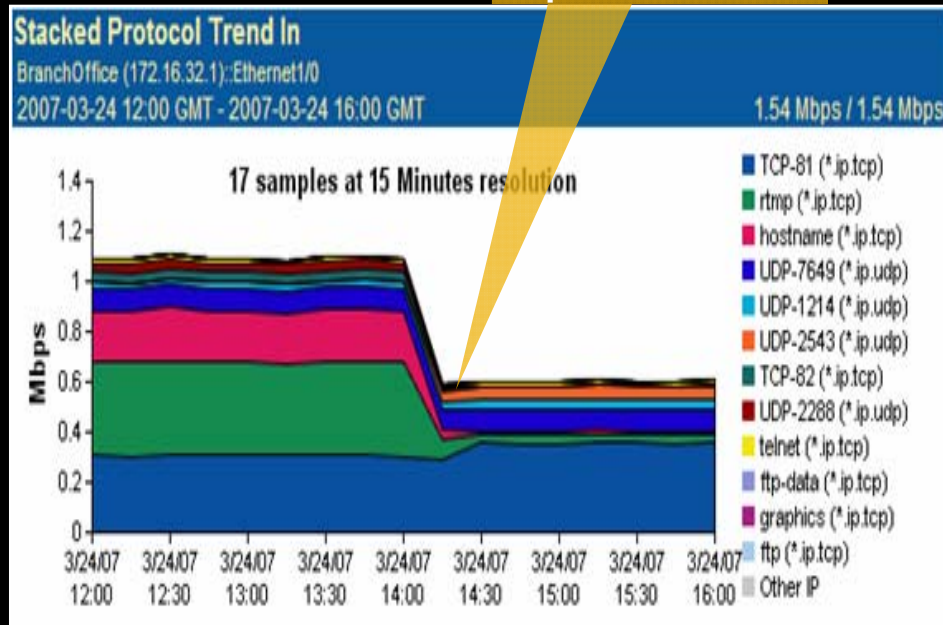
Application Acceleration



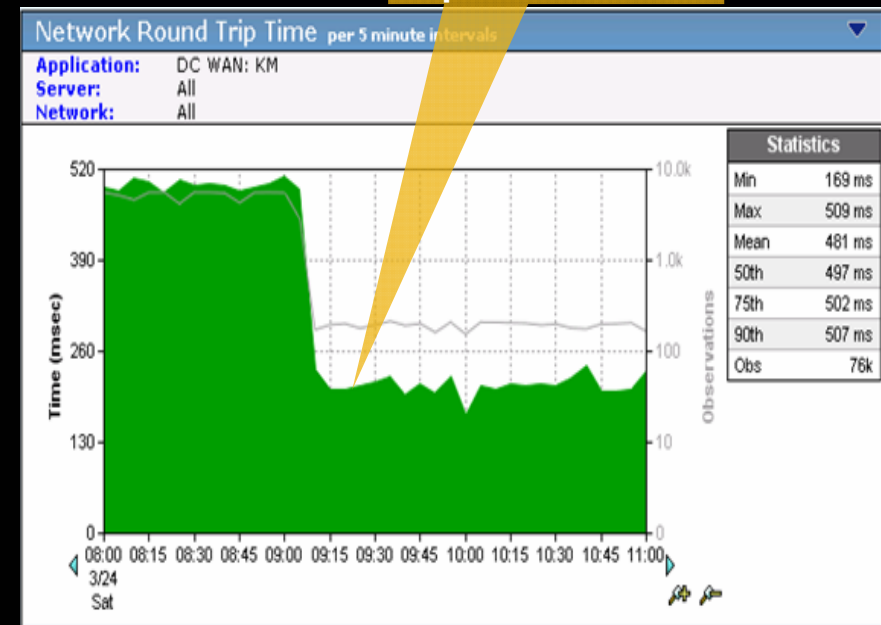
Category	Applications	2X	5X	10X	25X	50X	100X+
File Sharing	CIFS NFS 	2-20X Avg			>100X Peak		
Email	Microsoft Exchange Lotus Notes Internet Mail 	2-5X Avg	20X Peak				
Web and Collaboration	HTTP WebDAV FTP Microsoft Sharepoint   	2-10X Avg			100X Peak		
Software Distribution	Microsoft SMS Altiris HP Radia 	2-20X Avg			>100X Peak		
Enterprise Applications	Microsoft SQL Oracle, SAP Lotus Notes    	2-5X Avg	20X Peak				
Backup Applications	Microsoft NTBackup Legato Networker Veritas Netbackup CommVault Galaxy  	2-10X Avg			50X Peak		
Data Replication	EMC SRDF/A EMC IP Replicator NetApp SnapMirror Data Domain Double-Take Veritas Vol Replicator	2-10X Avg			50X Peak		

WAN Bandwidth Optimization

Optimization On



Optimization On



Bandwidth Usage Reduction

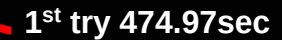
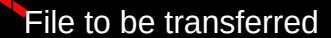
- Up to 95% savings
- Avoid bandwidth upgrade
- De-commission bandwidth

Improve VoIP Quality

- More room
- Better quality & reliability
- Use existing QoS policies

Improved Application Perf. Management

- Report Apps SLA accurately
- Find bottlenecks quickly
- Invest confidently



2ndt try 11.35sec

Cisco WAE Model Line Up



PERFORMANCE

High End (310Mbps-1Gbps)

1Gbs
50000 TCP



310Mbps
12000 TCP
Cisco WAE 7371



Cisco WAE 7341

Mid-Range (20-155Mbps)

155Mbps
7500 TCP



Cisco WAE 7326

90Mbps
6000 TCP



Cisco WAE 612

20Mbps
1500 TCP



Cisco WAE 512

Entry Level (4-8Mbps)



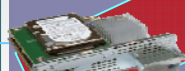
8Mbps
800 TCP
Cisco ISR 3800
NME 522

4Mbps
500 TCP



Cisco ISR
2800/3800 NME
502

4Mbps
250 TCP



Cisco ISR 2811
NME 302

Large
Data
Center

Medium
Data
Center

Small
Branch
Office

PRICE

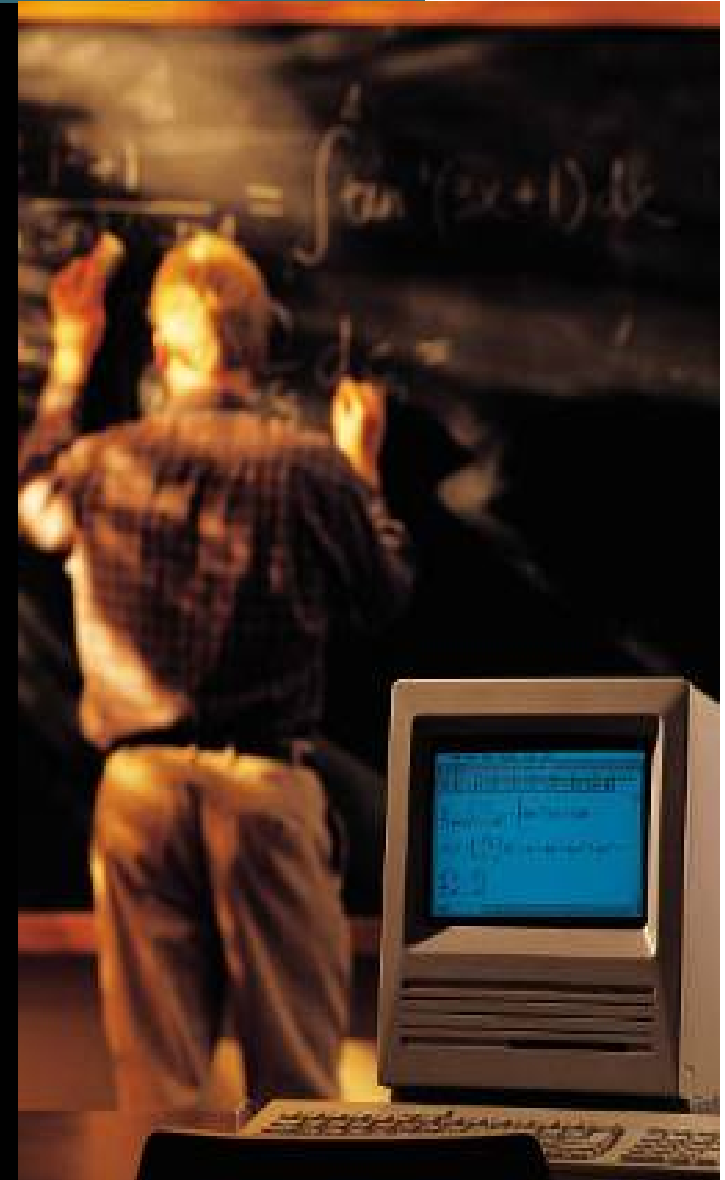
Tendencias en Tecnologías de Control de Acceso (NAC)



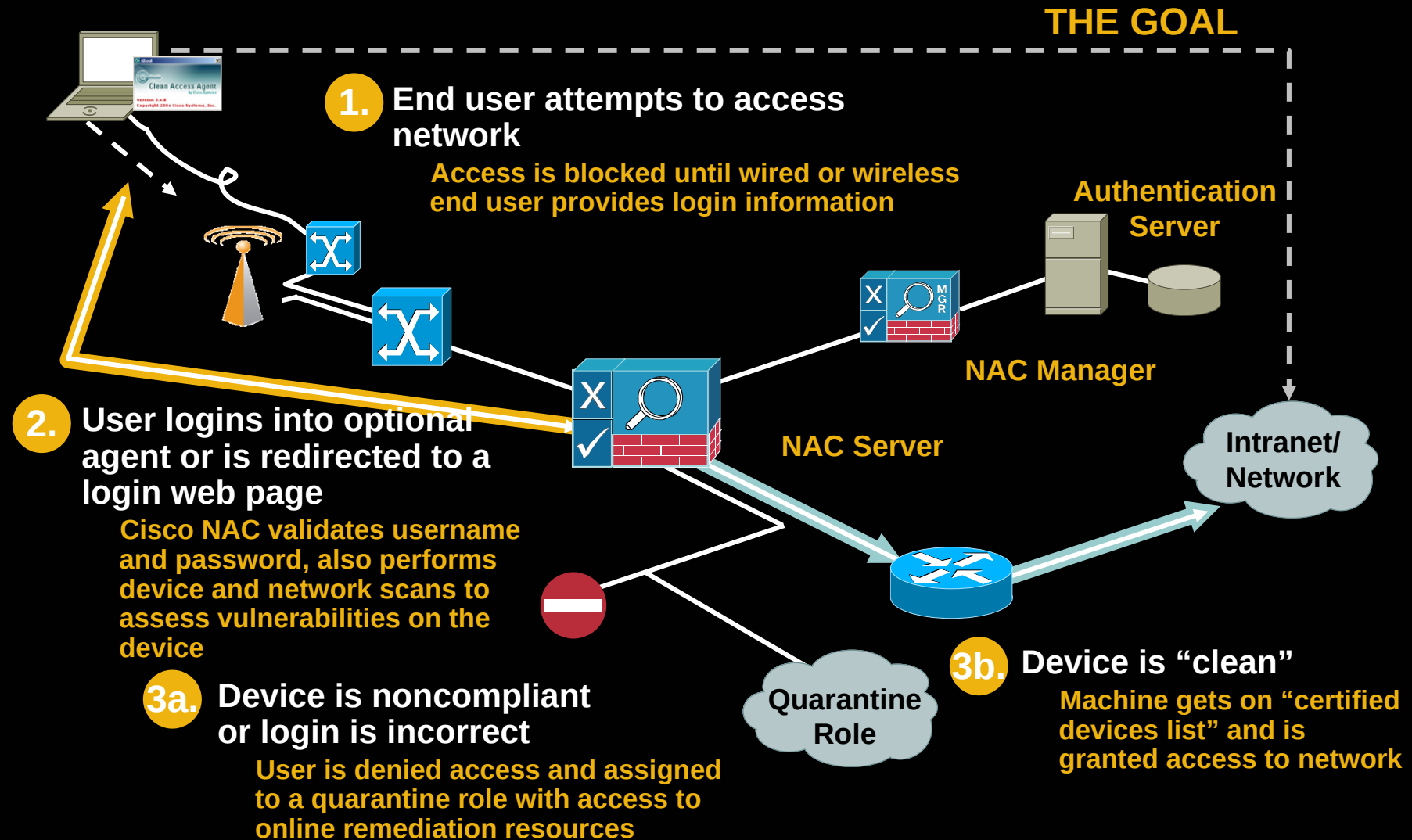
Cisco NAC Demo



CISCO



Cisco NAC Appliance Overview



NAC Appliance Components



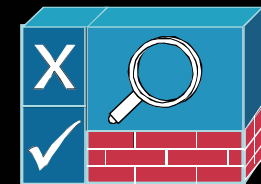
- **Cisco NAC Manager**

Centralizes management for administrators, support personnel, and operators



- **Cisco NAC Server**

Serves as posture, remediation and enforcement access control



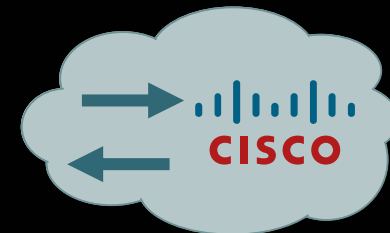
- **Cisco NAC Agent**

Optional lightweight client for device-based registry scans in unmanaged environments



- **Rule-set Updates**

Scheduled automatic updates for anti-virus, critical hot-fixes and other applications



Cisco NAC Appliance Partnerships



Cisco NAC is committed to protecting customer's investments in partner applications

NAC Appliance Supports Policies for 300+ Applications, Including these Vendors:



Tendencias en Vídeo vigilancia



El problema de CCTV tradicional

- Monitor larger physical areas
- Mandatory digital video archiving
- Access surveillance information from multiple locations simultaneously
- Real time information
- Share video information between organizations
- Integration of surveillance with other data/voice/sensor applications



Como se puede mejorar la efectividad y seguridad de un sistema de Video vigilancia mediante el uso de la red IP



Areas de Transito



Vias de Acceso



Oficiales a pie



Estacionamientos



**Seguridad Escolar
(aulas, áreas
comunes, etc.)**



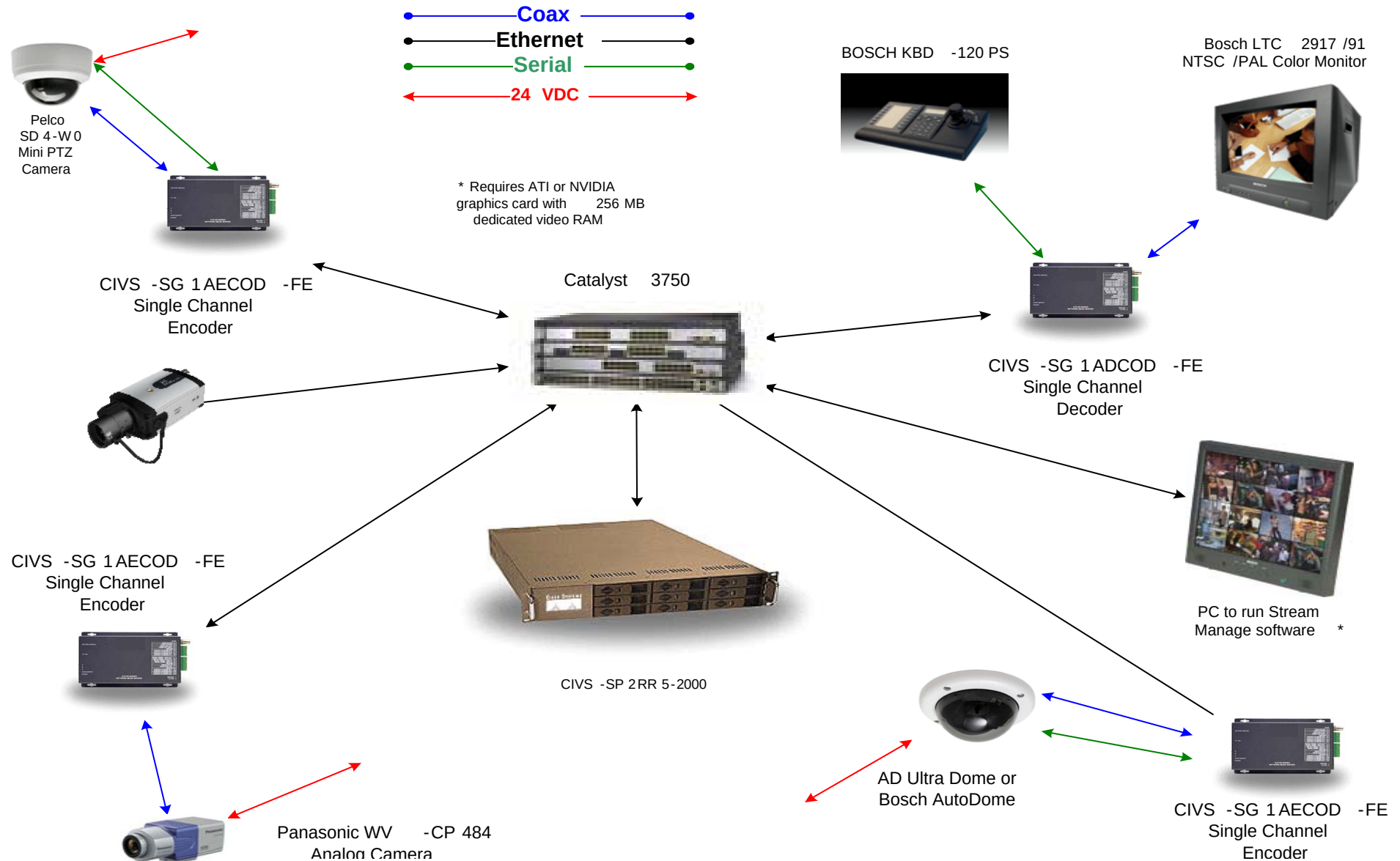
**Almacenamiento
del Video**



**Contacto con
Autoridades**



Video vigilancia sobre IP



The Cisco 3200 Series Router – Enabling Intelligent Wireless Video Networks with Integrated Functionality



High Performance Router with Rugged, Flexible Design

Cisco IOS Router with Serial Interfaces



10/100 LAN Switch



802.11 Access Point & 802.11 Bridges



Stateful Firewall



Cellular Modems & Future Wireless Technologies (1xEVDO,
4.9 GHz, WiMAX)



Integrated Intelligent Video



Beneficios

Imagen Optima en condiciones criticas de iluminación

Cisco Imager



Typical Imager



Cisco imager can pick up details in extreme lighting conditions a common in warehouse applications

Cámaras Cisco serie 2500 para Video vigilancia sobre IP

- **CIVS-IPC-2500**
- **Orderable: March 2008**
- **FCS: March 2008**
- **List Price: \$1000**



- **CIVS-IPC-2500W**
- **Orderable: June 2008**
- **FCS: June 2008**
- **List Price: \$1250**



Análisis Inteligente de video Western Datacom (Cisco Partner para Video vigilancia)



Análisis Inteligente de video Western Datacom (Cisco Partner para Video vigilancia)



Análisis Inteligente de video Western Datacom (Cisco Partner para Video vigilancia)



