

# Xtera Communications

## AscenFlow Product Family Overview

No. 080331



# Bandwidth in everyday

- Your life:
  - YouTube, iTune, Skype phone, P2P, online game, digital TV
- Your Business:
  - VoIP, Video Conference, VPN, ERP, BMP, Web Service, centralized data center
- Network Service Everyday
- Network Service = Bandwidth

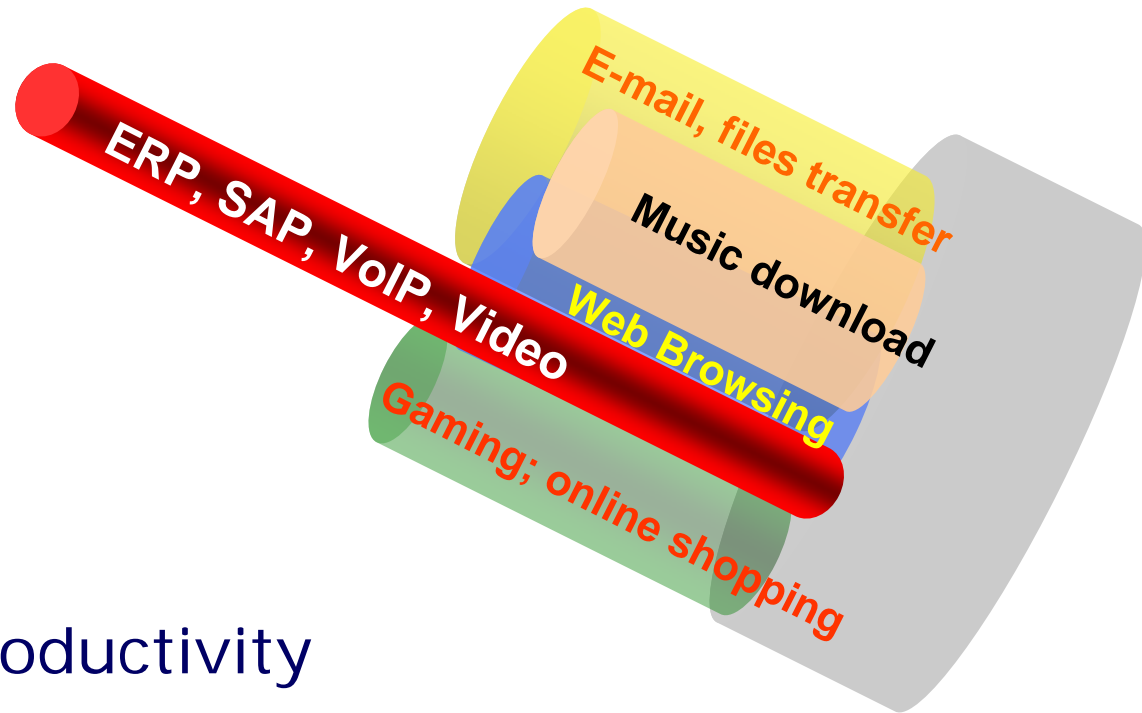
# Bandwidth in Business

- Network Applications  
= Bandwidth  
= Business or Create Business
- Bandwidth is an important investment
- How your every cent was used
- More value created by every investment

# Challenges

- Quality of service
  - Bad performance
  - Bandwidth-eater applications
  - Improper usage of bandwidth
- Cost
  - Meaninglessly line upgrades
  - Maintain / Operation cost
  - Productivity
- Security
  - Invisibility into traffic
  - Potential threat
  - Malicious traffic attacks

# When Traffic is NOT Managed



- Lost productivity
- Lost business opportunities
- Lost reputation
- Investment on bandwidth is not optimized

# **Solution: AscenFlow**



# What is AscenFlow

- WAN Traffic Management
  - Traffic Analysis
    - Identify layer7 applications
    - Figure out **Who**, **What** and **When**
  - Policy Enforcement
    - QoS for applications
    - Service-level agreement (SLA)
  - Monitor and Report
    - Intergraded and continued report of network activities



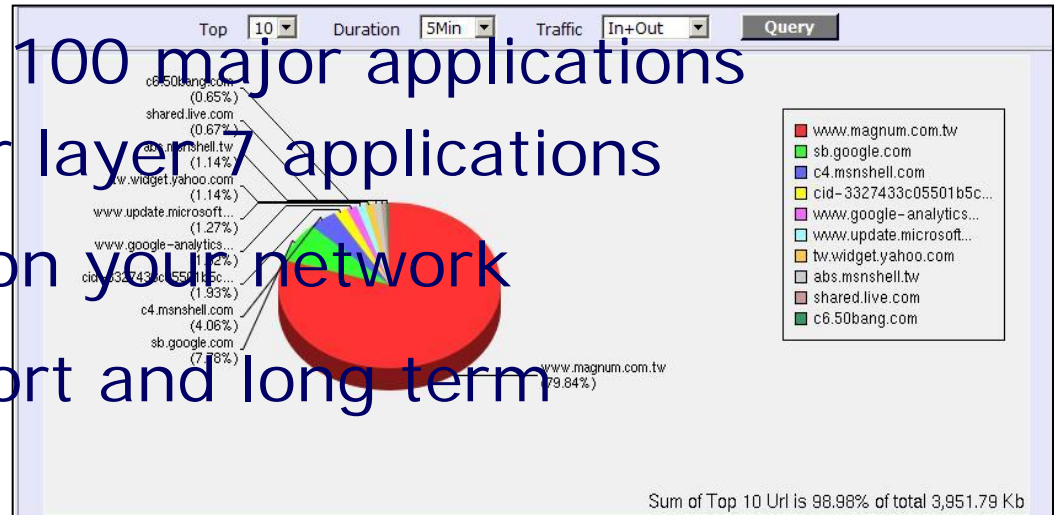


# Functions

- Visualized data flow analysis
- Policy based QoS
- Layer 7 protocol access control
- Connection limit
- Identity-based management (Authentication)
- Quota
- FlowReport

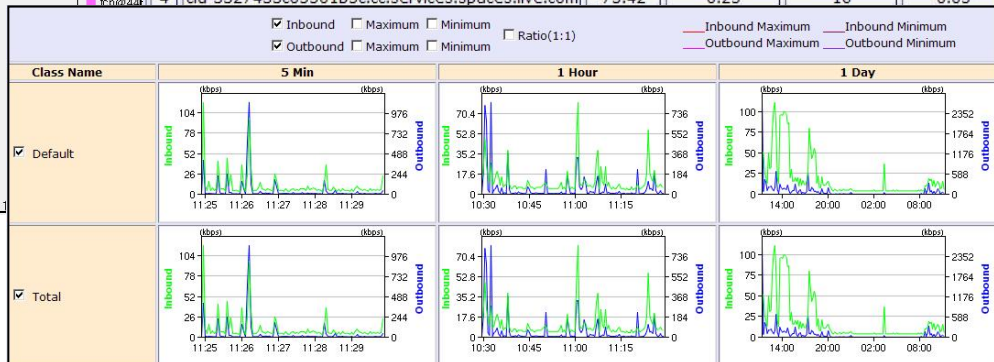
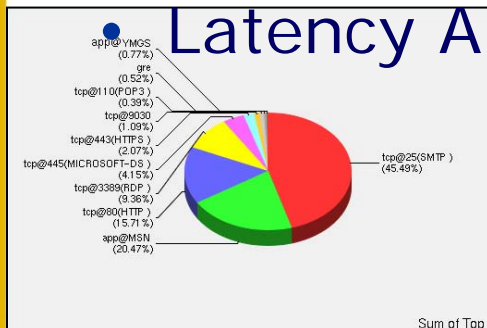
# Visualized data flow analysis

- Visibility over 100 major applications
- Identify major layer 7 applications
- Know what's on your network
- Real-time, short and long term statistics

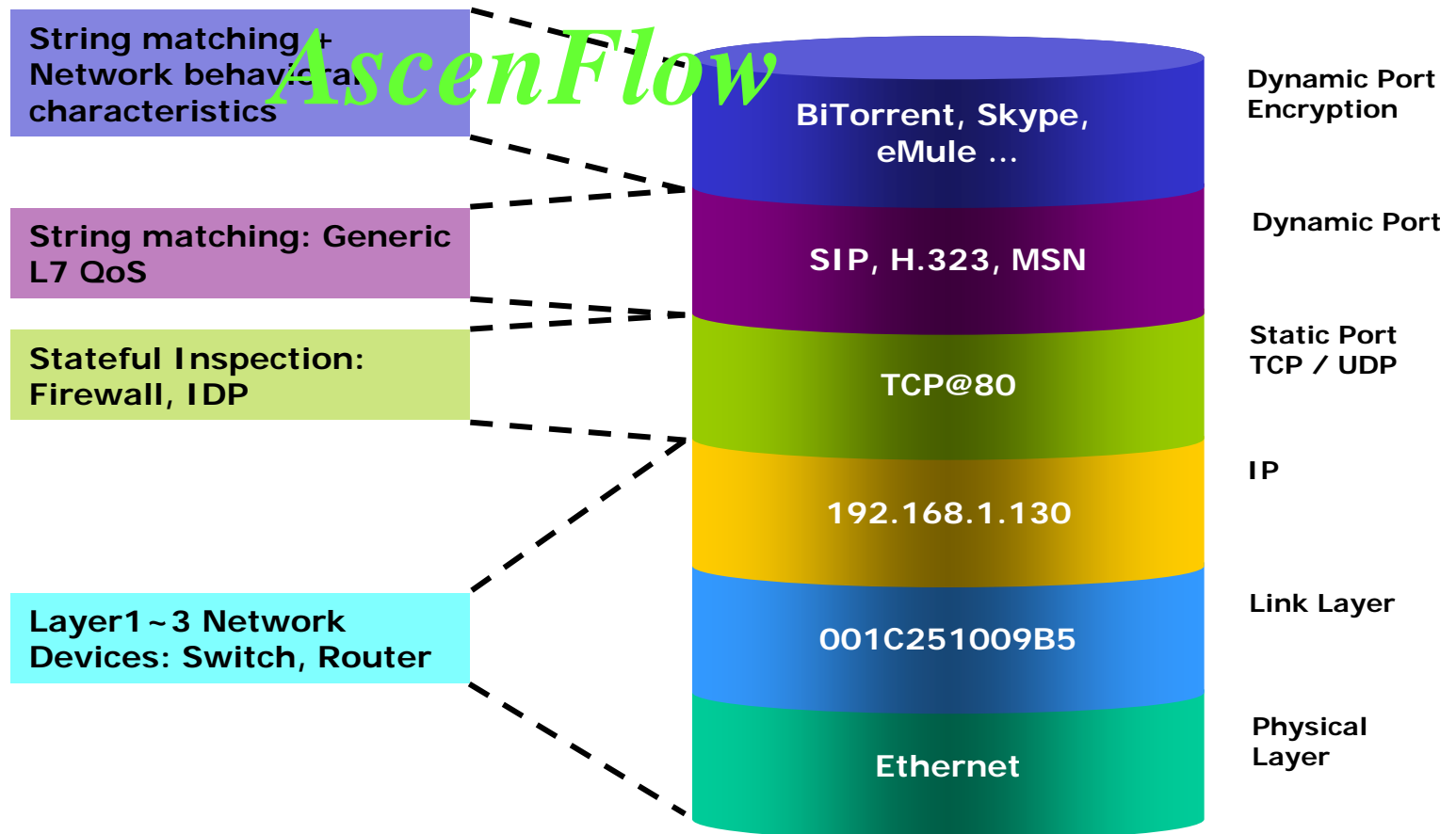


#	URL	Total Kb	Average Kbps	Total Packets	Average pps	%	Action
1	www.magnum.com.tw	3,122.82	10.41	500	1.67	79.02	AddPolicy
2	sb.google.com	304.20	1.01	60	0.20	7.70	AddPolicy
3	c4.msshell.com	159.00	0.53	30	0.10	4.02	AddPolicy
4	cid-3327433c05501b5c.cc.services.spaces.live.com	75.42	0.25	16	0.05	1.91	AddPolicy
						1.51	AddPolicy
						1.26	AddPolicy
						1.13	AddPolicy
						1.12	AddPolicy
						0.66	AddPolicy
						0.64	AddPolicy
						1.02	#
						100	#

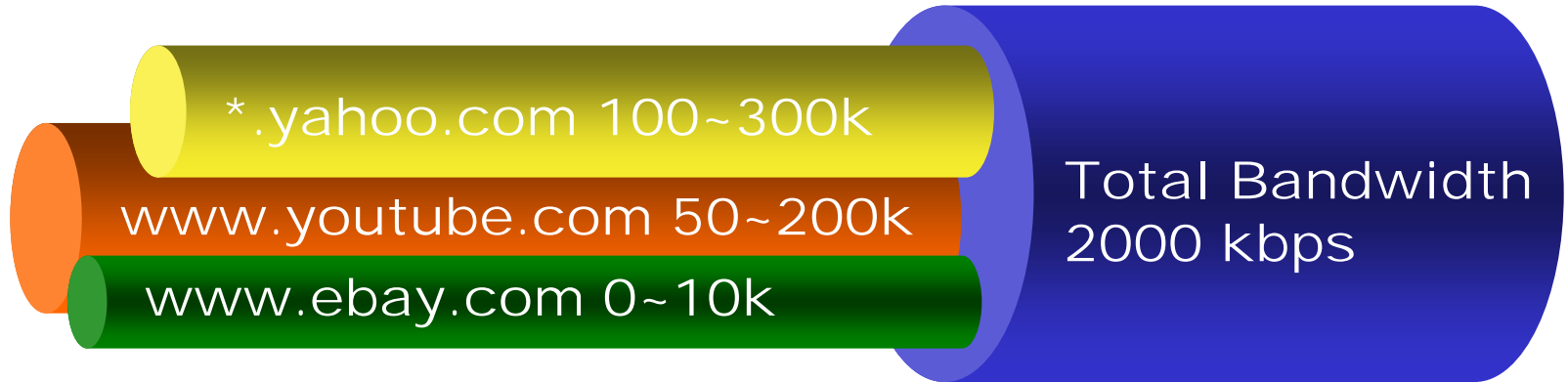
## Latency Analysis



# Deep Application Classification



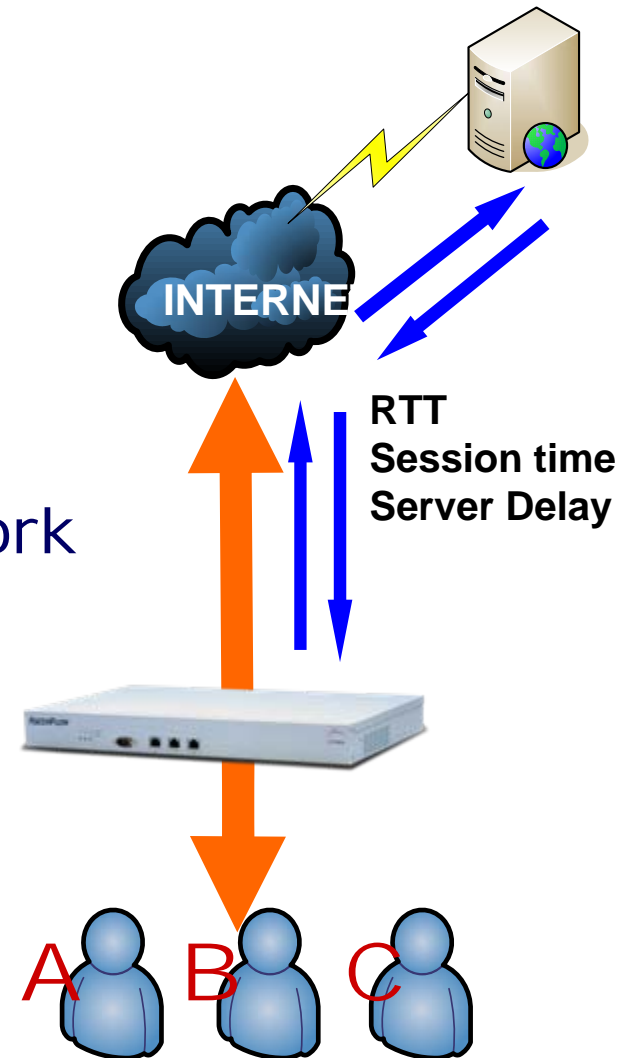
# URL Analysis



- Analyze top most visited websites
- Analyze network behavior precisely
- Prevent loss in productivity

# Latency Analysis

- Discover how long the user wait for the respond
- Understand the problem are related from server or network

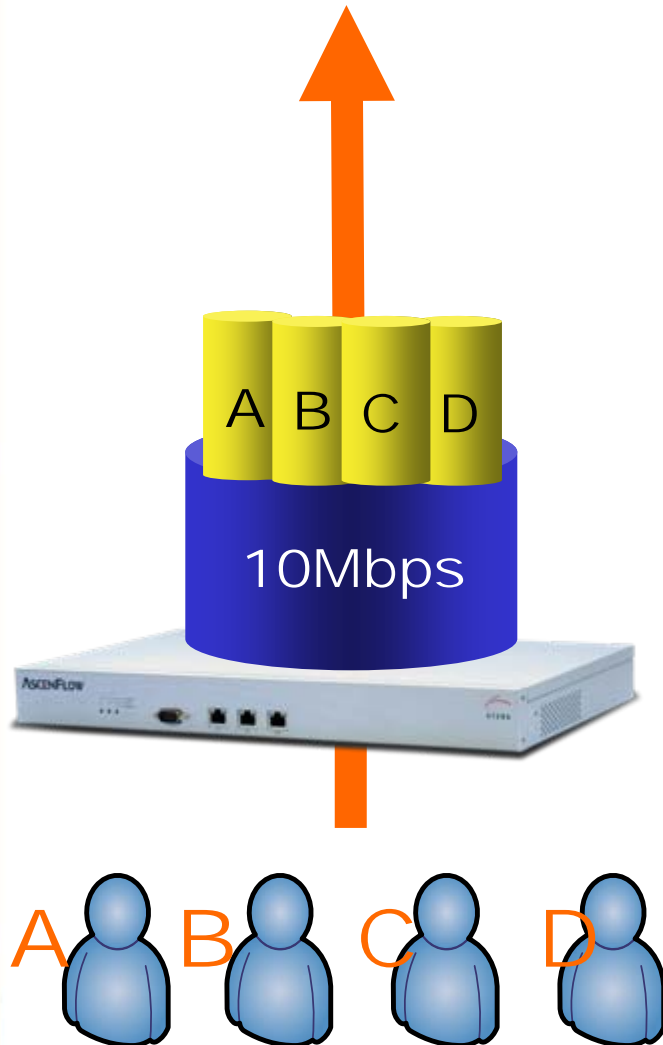




# Policy Based QoS

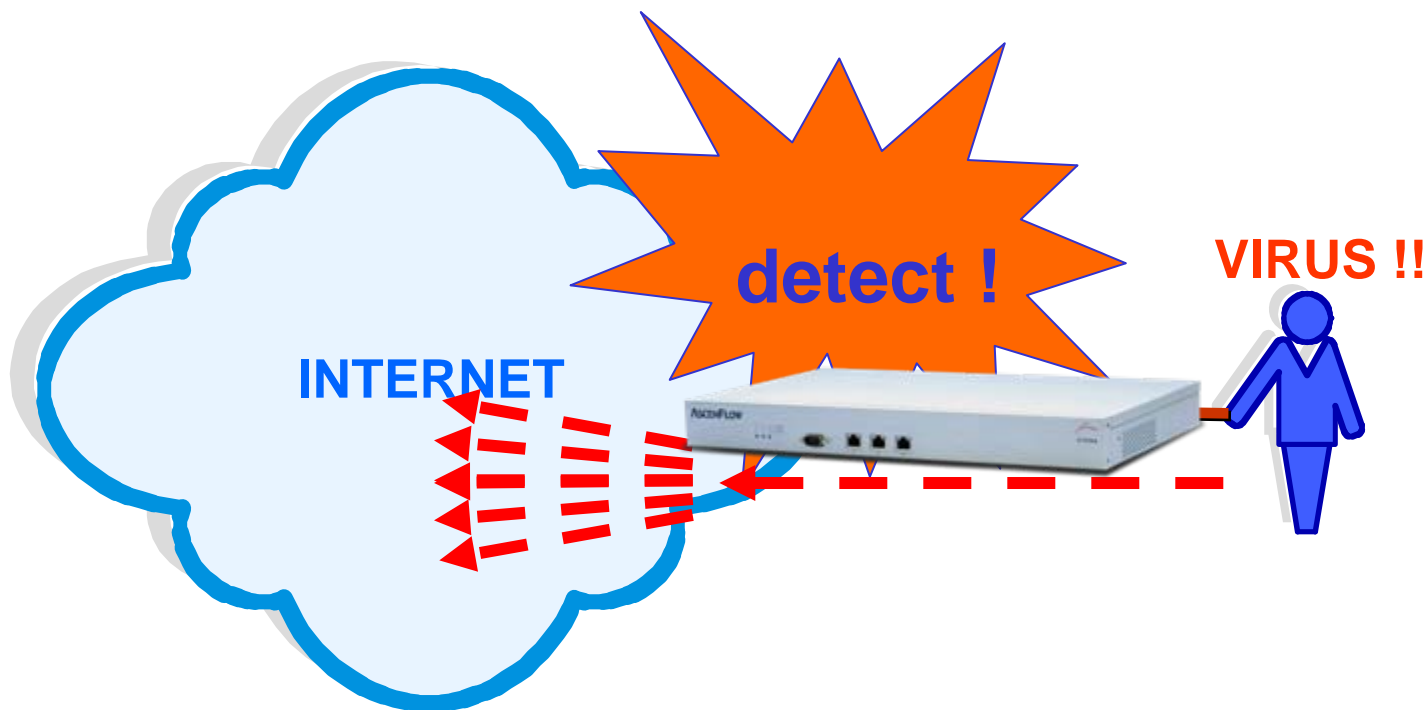
- Guarantee & Limit
  - Guarantee critical applications
  - Limit non-critical applications
- By URL
  - Recreational web site (youtube, blog...)
- By Individual IP
  - Manage each user in one policy
  - Allocate bandwidth dynamically
- Connection Limit
  - Prevent malicious traffic
  - Reserve network resource

# Even Allocation



- Allocate bandwidth dynamically
- Fairly distribute bandwidth for all users in your network
- Reduce the impact of multiple rules
- Allocate bandwidth based on number of users

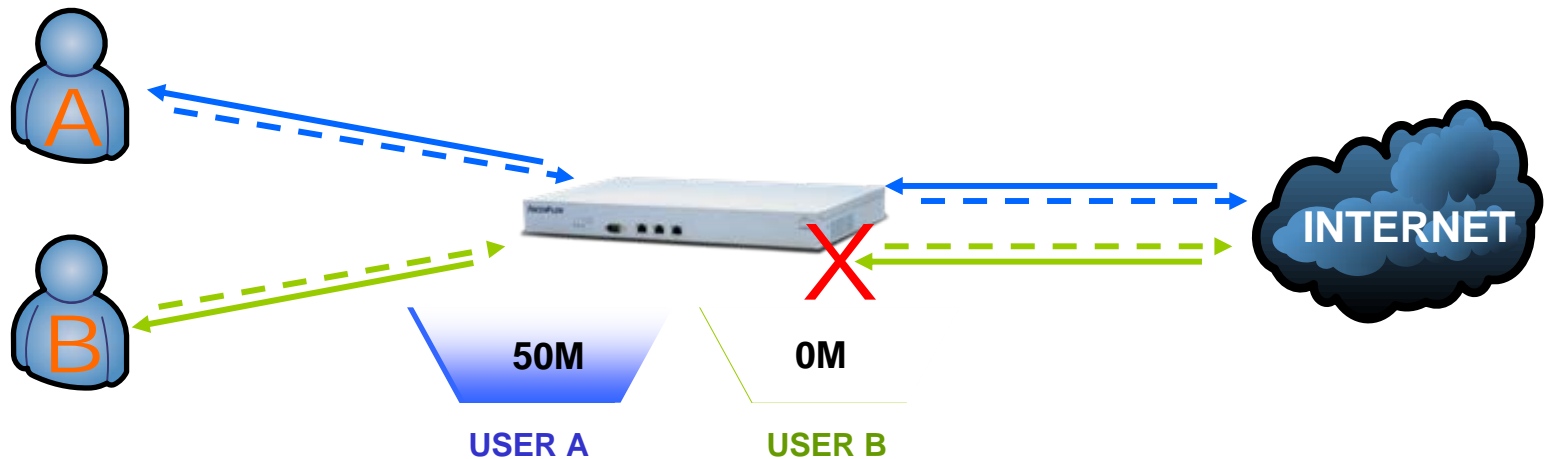
# Connection Limit



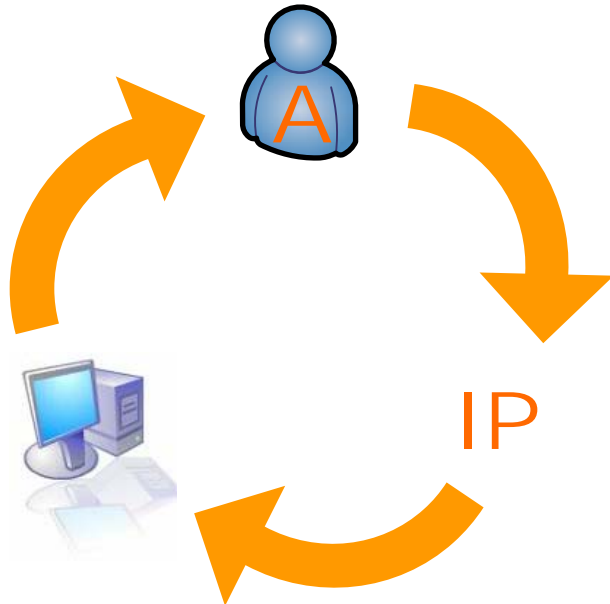
- Proactive detection for abnormal traffic
- Limit the number of concurrent connections from each IP address

# Quota

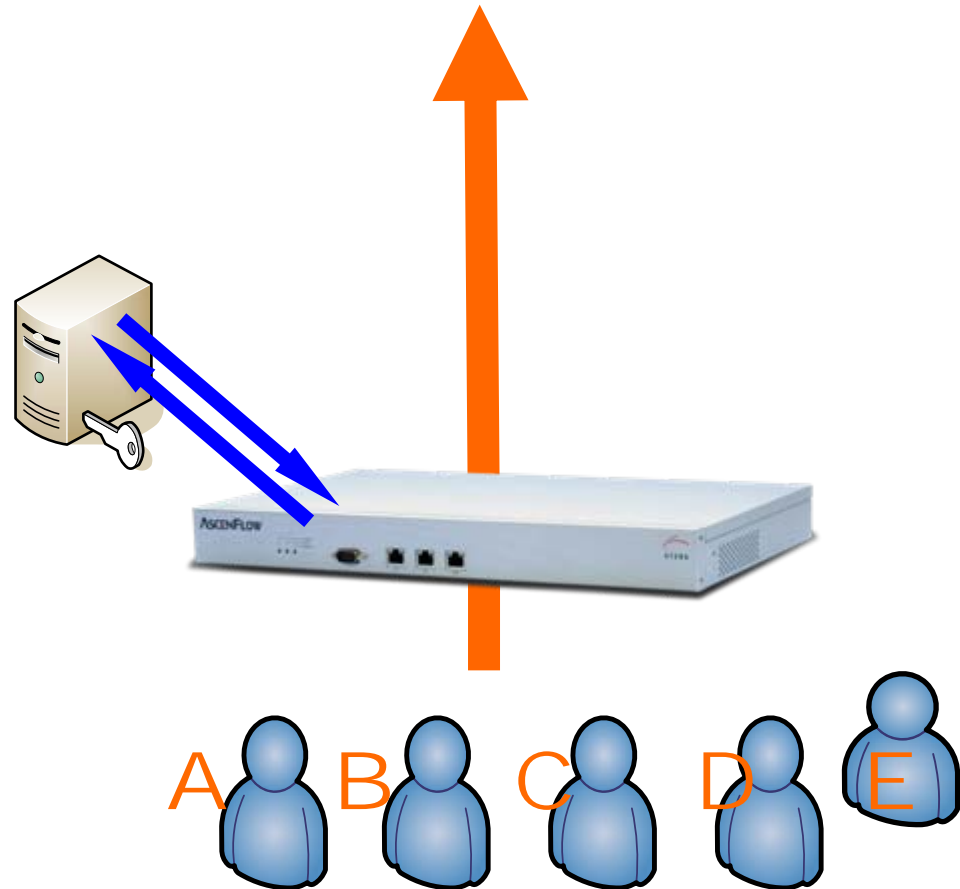
- Manage bandwidth volume
- Various Business models
  - Prepaid
  - Periodical



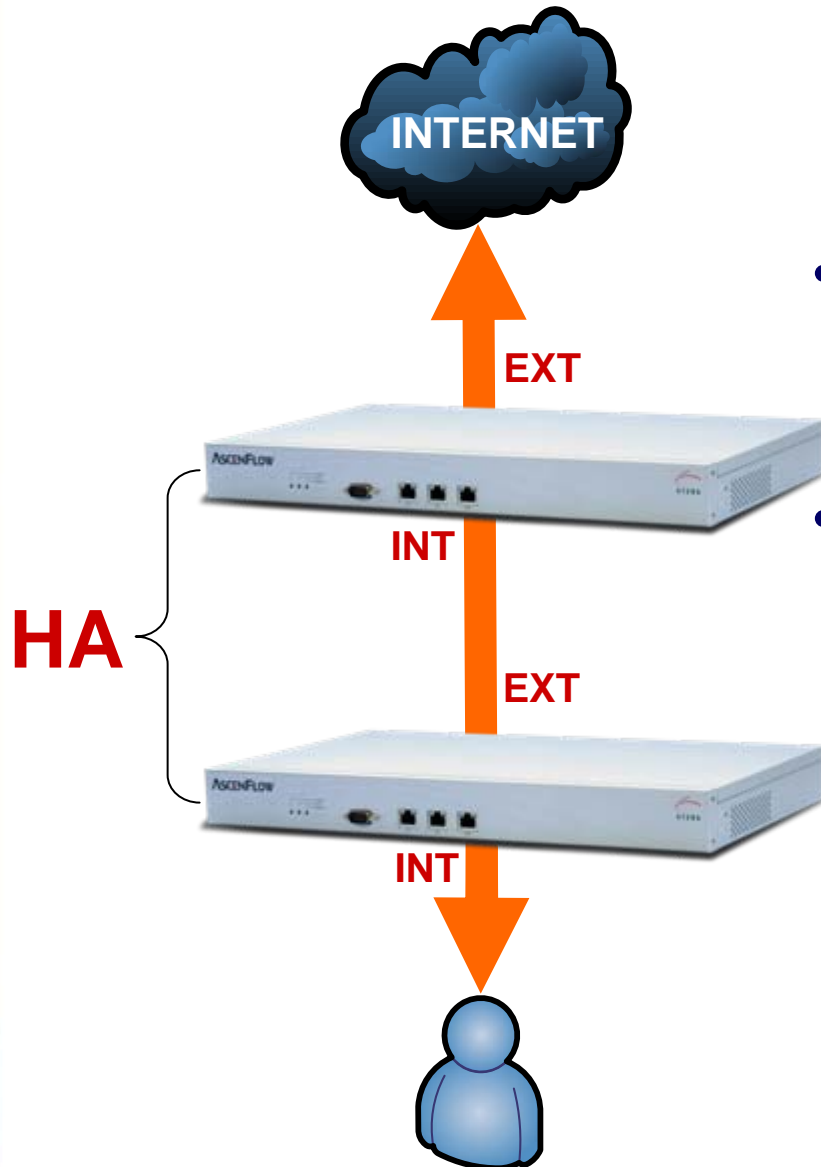
# Authentication



- NTLM
- LDAP
- RADIUS
- POP3
- Local database



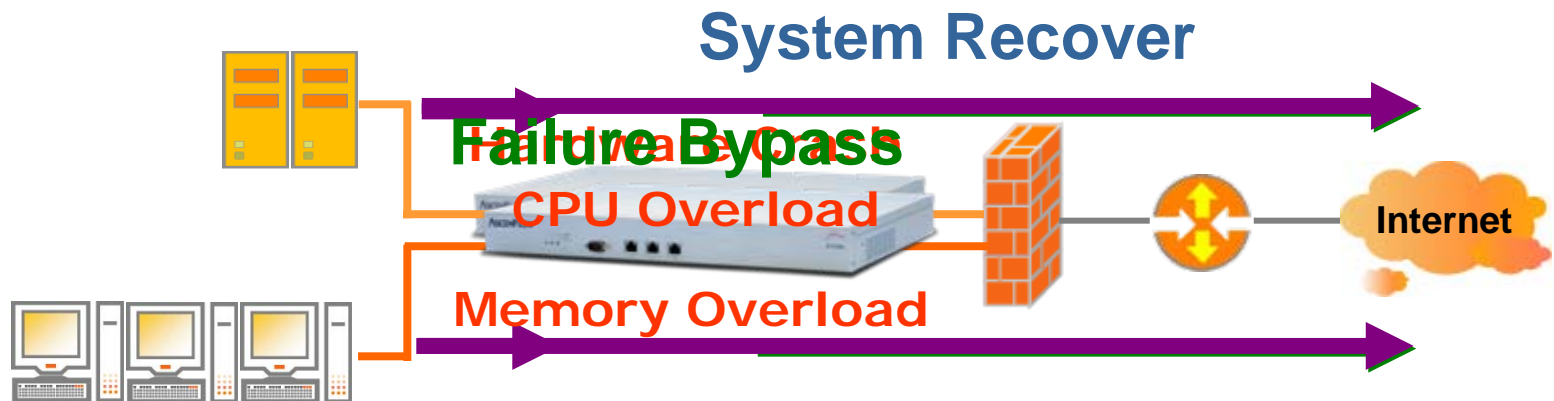
# High Availability



- Provide uninterrupted bandwidth management service by HA
- Configuration auto synchronize

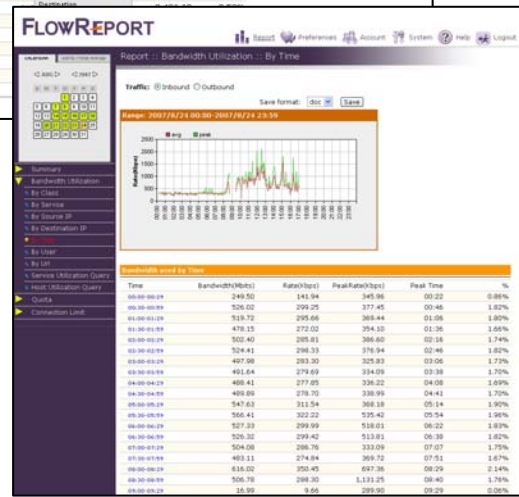
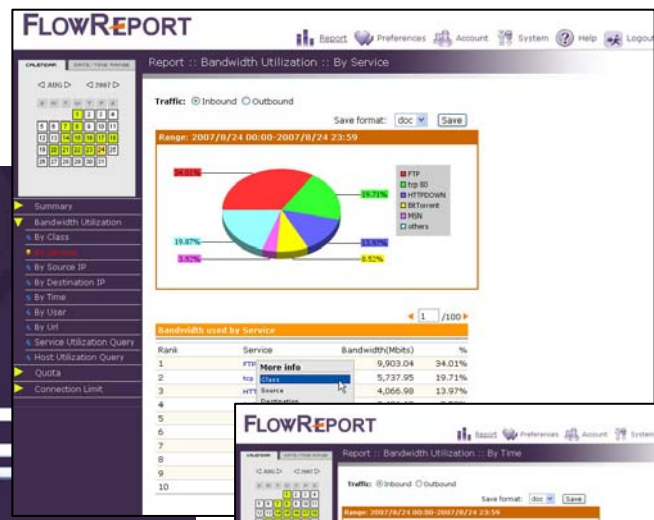
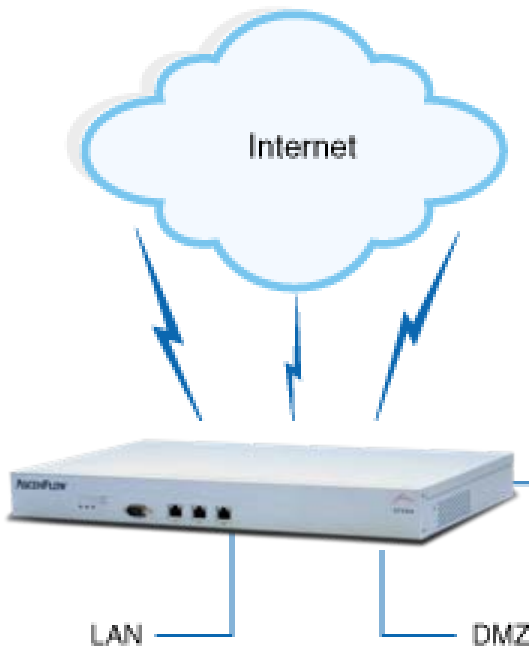
# Failure Bypass

- Software Bypass
  - Bypass while CPU or memory is overload
- Hardware Bypass
  - Bypass while device is crash
  - Support fiber port bypass



# FlowReport

Powerful reporting system

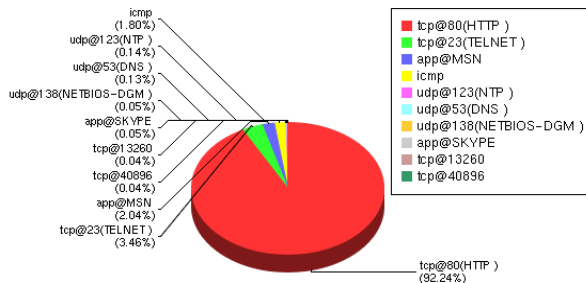


# Conclusion



# Solution for Service Quality

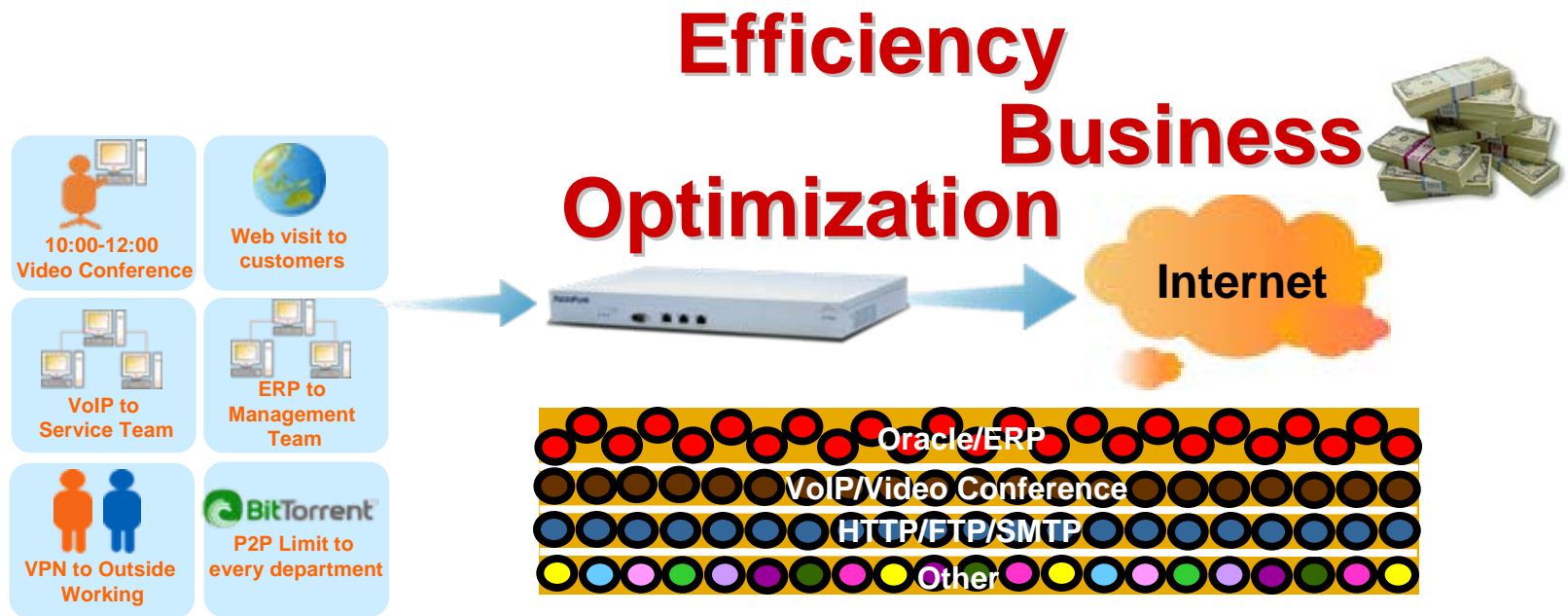
- Traffic / Latency analysis
- Layer 7 Protocols Identification
- Bandwidth guarantee & limit





# Solution for Cost Issue

- Policy based L7 traffic management
- Integrated analysis, monitor, report and operation system
- Increase productivity / Reduce BW investment



# Vertical Market

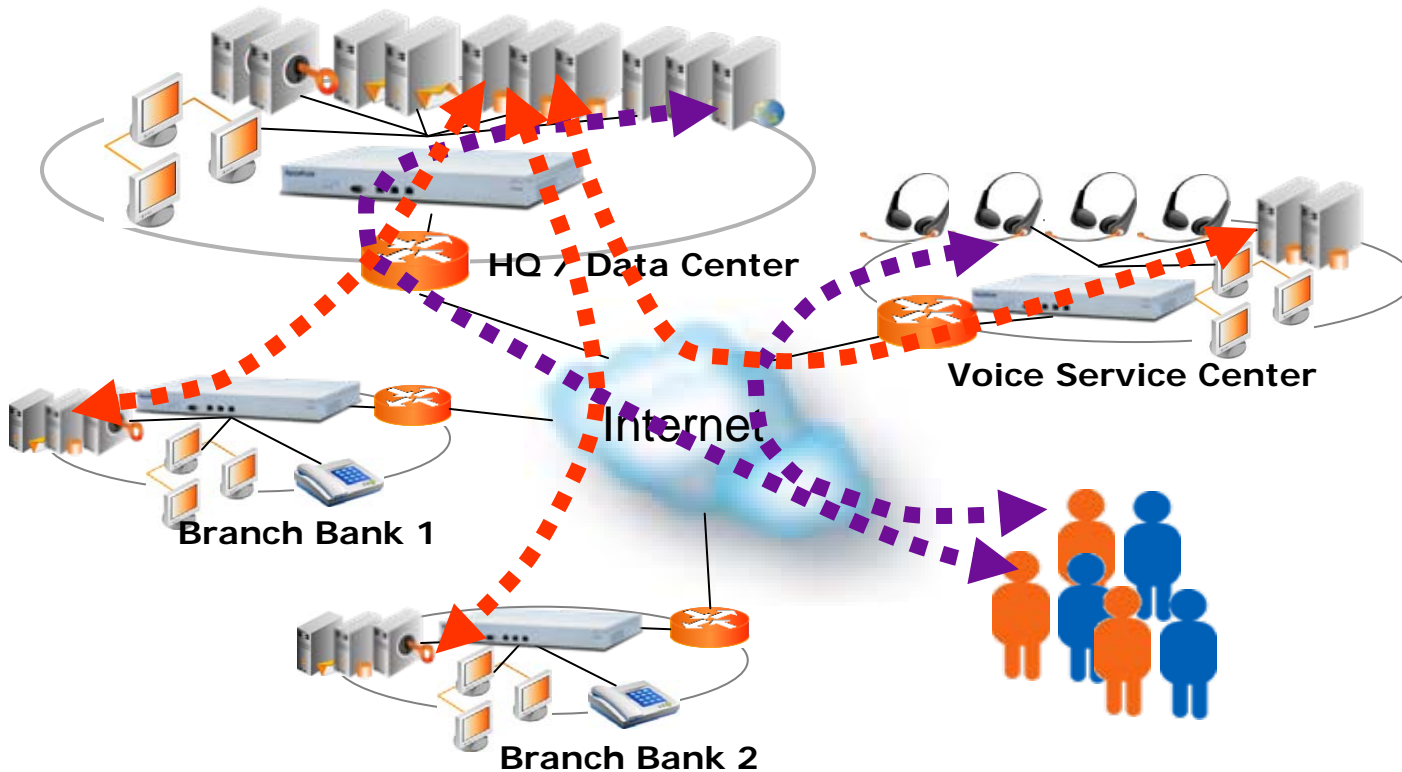


# Bank and Finance

- Properties
  - Internationalization and lots of branches
  - Lots of data transmission
  - Voice services
  - Virtual banks
- Challenge
  - quality and cost
  - Burst traffic
  - Visibility into traffic
  - Services for VIP customers
  - Malicious traffic attacks

# Bank and Finance - Solution

- Bandwidth Guarantee
  - VoIP
  - Network Bank
  - Data transmission
- Optimal Utilization
  - Traffic / Latency analysis
  - Limit burst or recreational traffic



# Government

- Properties
  - Get relying on network applications
  - Lots of data transmission
  - Critical business such as emergency, security, communication, medicine, finance and defense
  - Image of efficiency and reliability
- Challenges
  - Protocol performance and reliability
  - Security issues from P2P
  - Recreational services

# Government

- Traffic Analysis & Monitor
- Layer 7 Protocols Access Control
  - P2P
  - Recreational
  - Abnormal traffic
- Bandwidth guarantee
  - VoIP / Video conference
  - Network Services
  - Data transmission



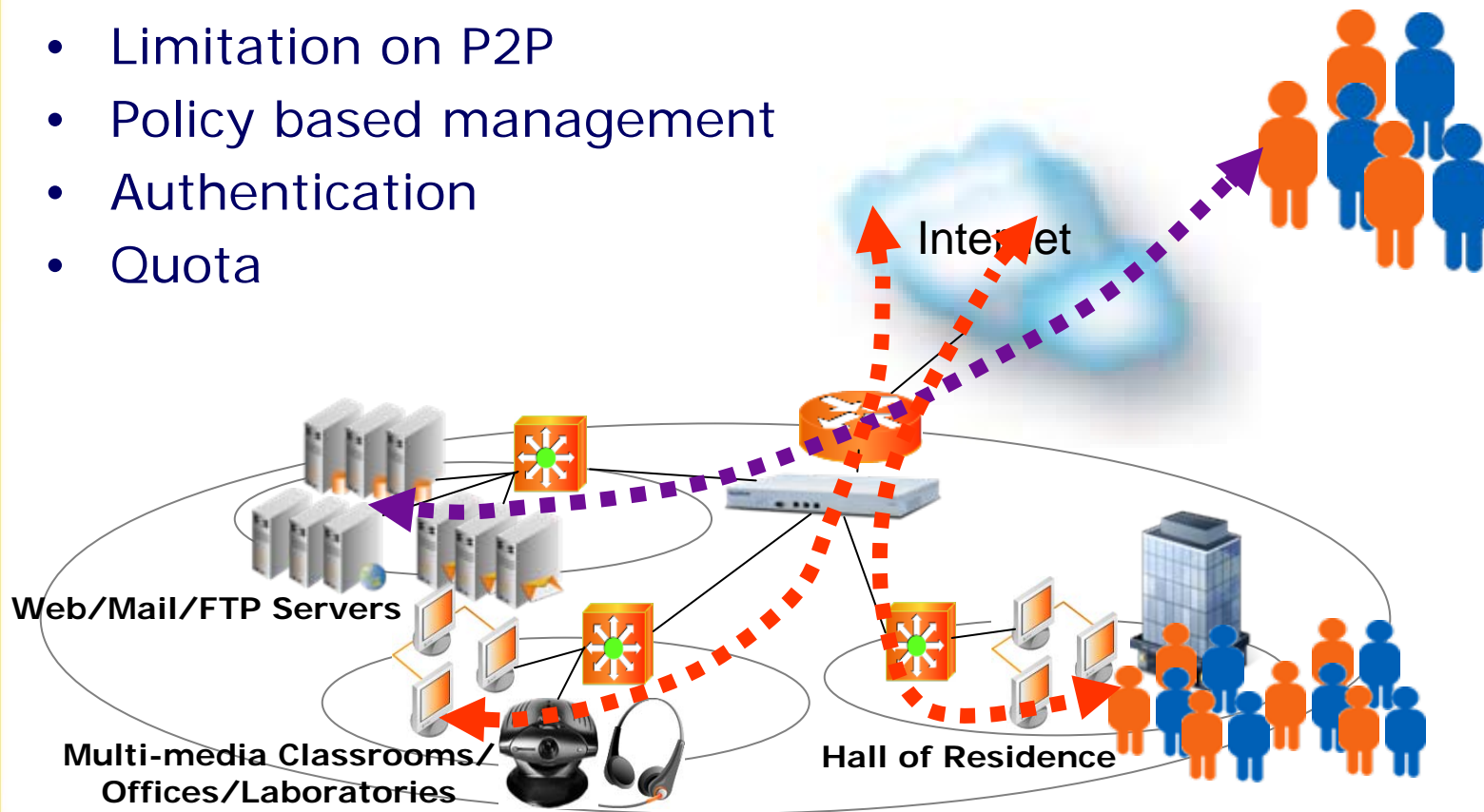


# Education

- Properties
  - E-learning, distance learning or digital classroom
  - Research depends on network
  - Network activities from teenage students
  - Large number of students and faculties
- Challenges
  - P2P
  - Recreational traffic
  - Voice and video for education
  - Saving cost
  - Management

# Education

- Bandwidth Guarantee
- Limitation on P2P
- Policy based management
- Authentication
- Quota

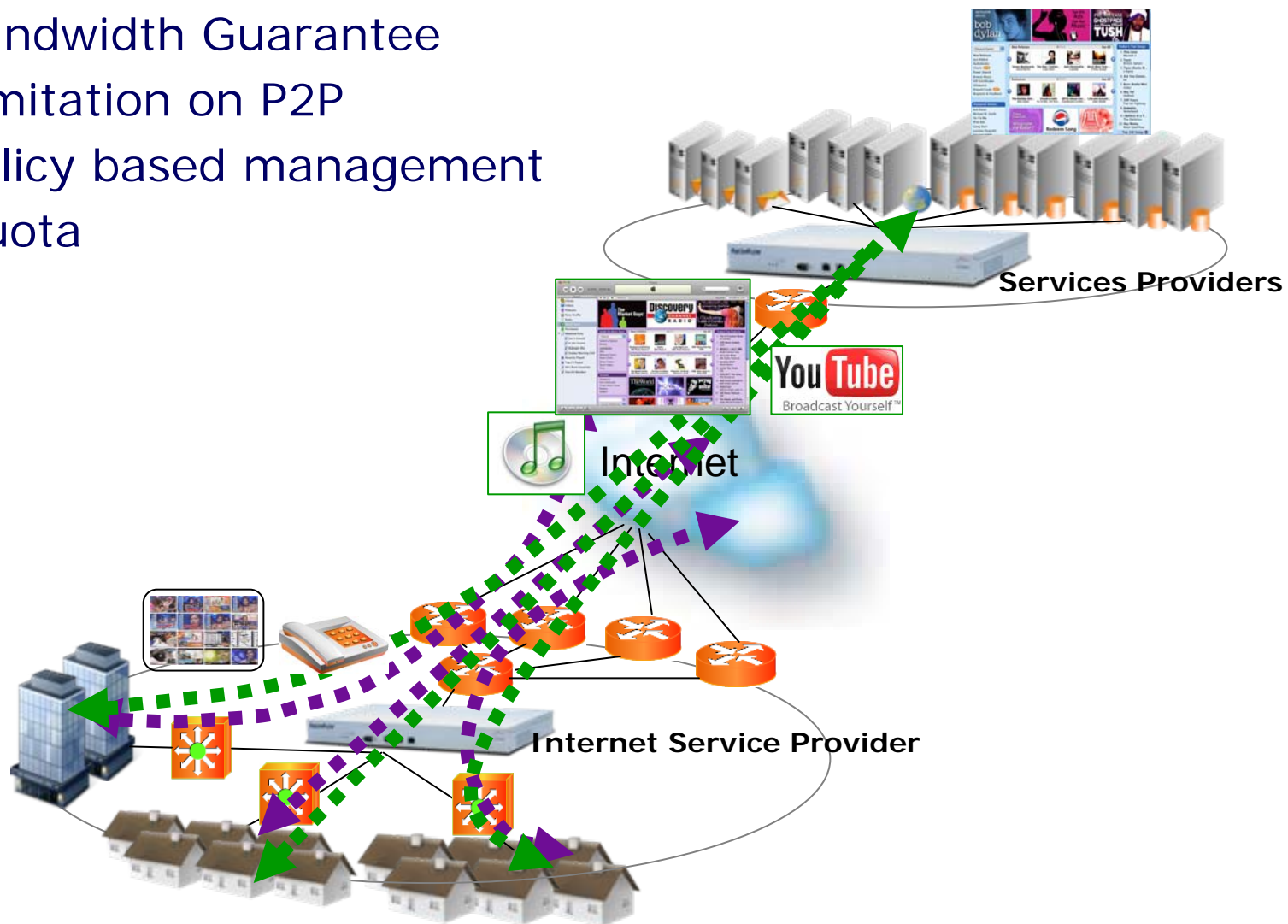


# Service Provider

- Properties
  - Provide multi-media services
  - Fast and frequent data communication
  - Big investment on bandwidth
  - Service Level Agreement
  - large number of customers
- Challenges
  - performance
  - Bandwidth-eater applications
  - Cost saving
  - Management

# Service Provider

- Bandwidth Guarantee
- Limitation on P2P
- Policy based management
- Quota

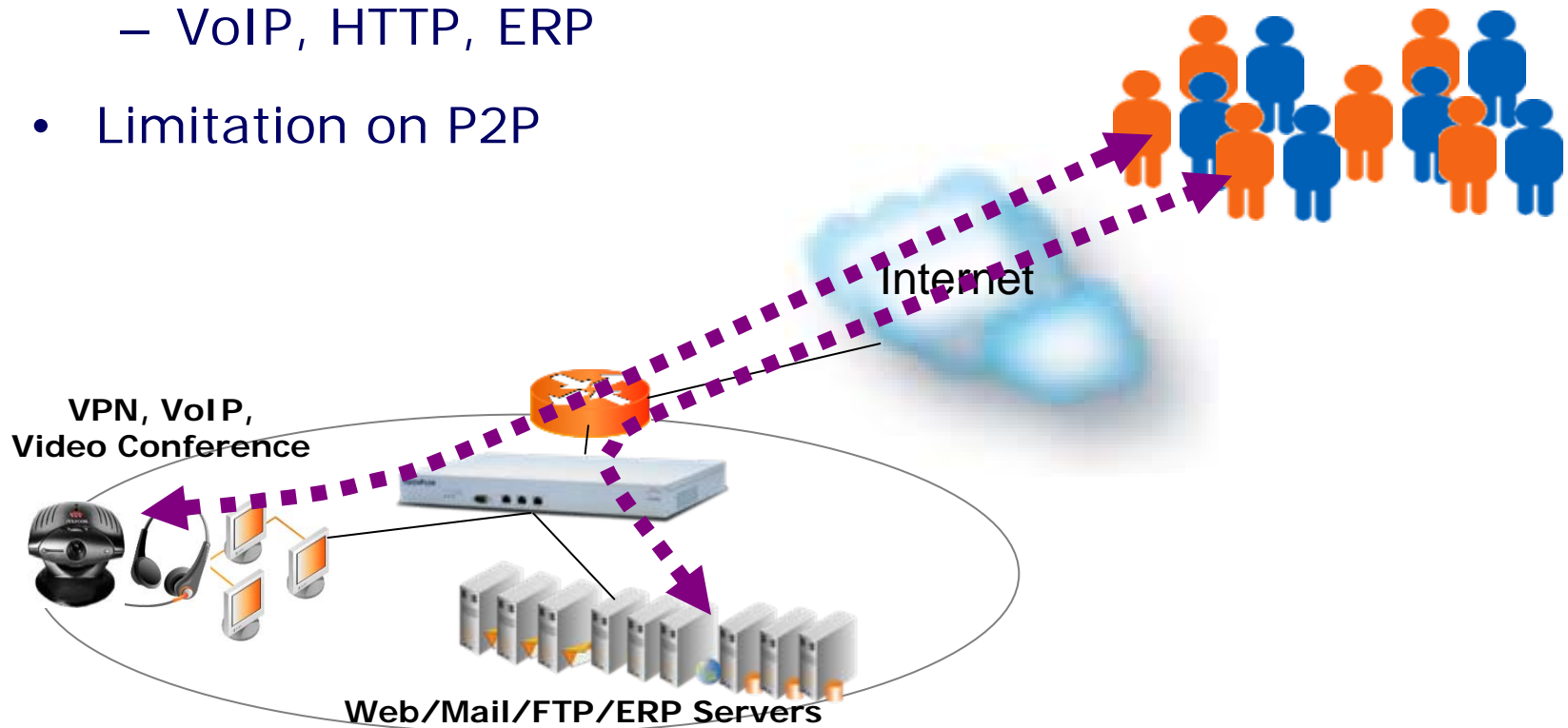


# General Enterprise

- Properties
  - Dependence on network
  - Limited investment on bandwidth upgrades
- Challenges
  - Performance of critical services
  - Waste on recreation
  - Low productivity
  - Cost for line upgrades

# General Enterprise

- Traffic / Latency analysis
- Bandwidth Guarantee
  - VoIP, HTTP, ERP
- Limitation on P2P

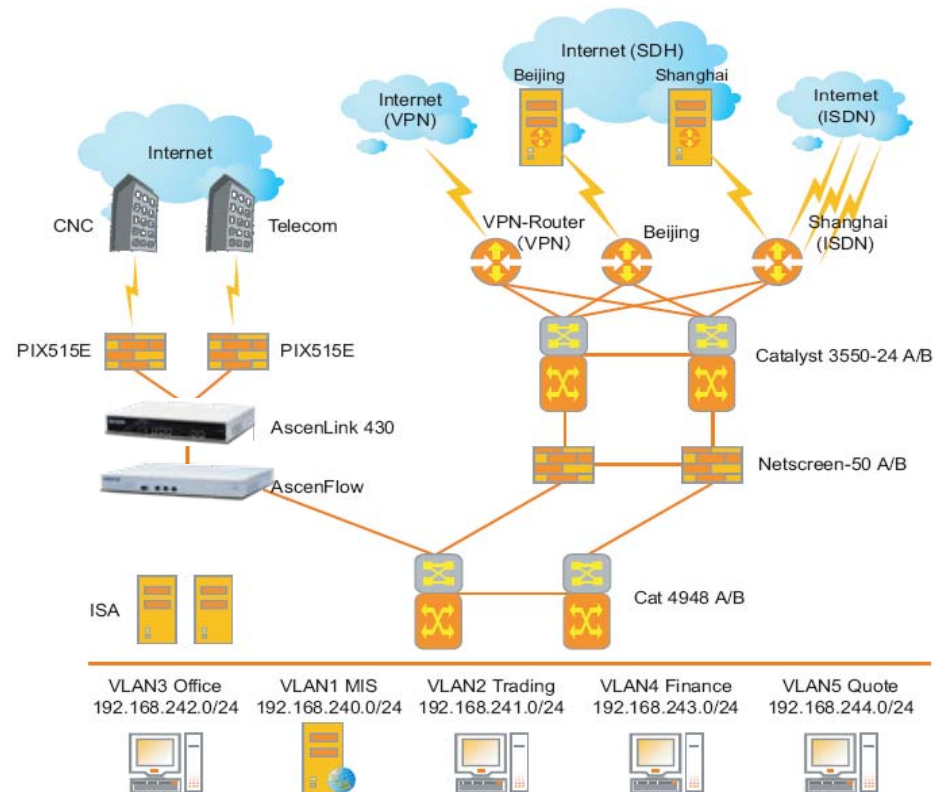


# Success Cases



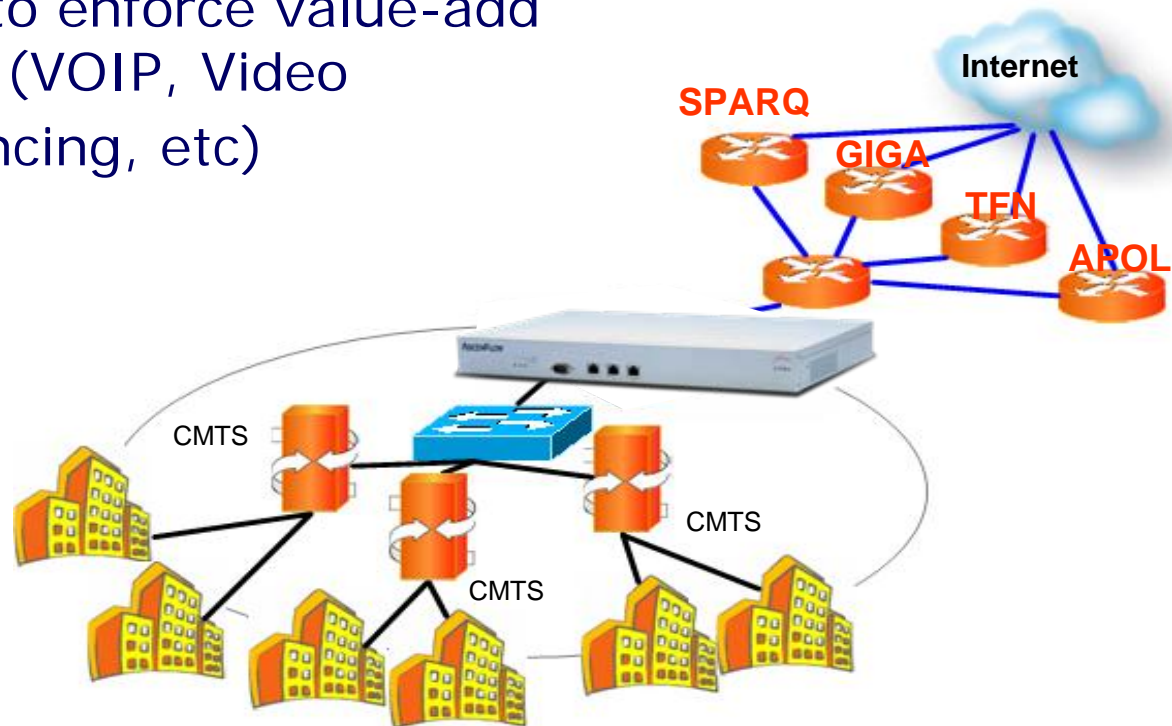
# GuoDu Securities

- Fault tolerance and load balancing (AscenLink)
- Control P2P usage
- Ensure critical applications' performance
- Control the false traffic from attack



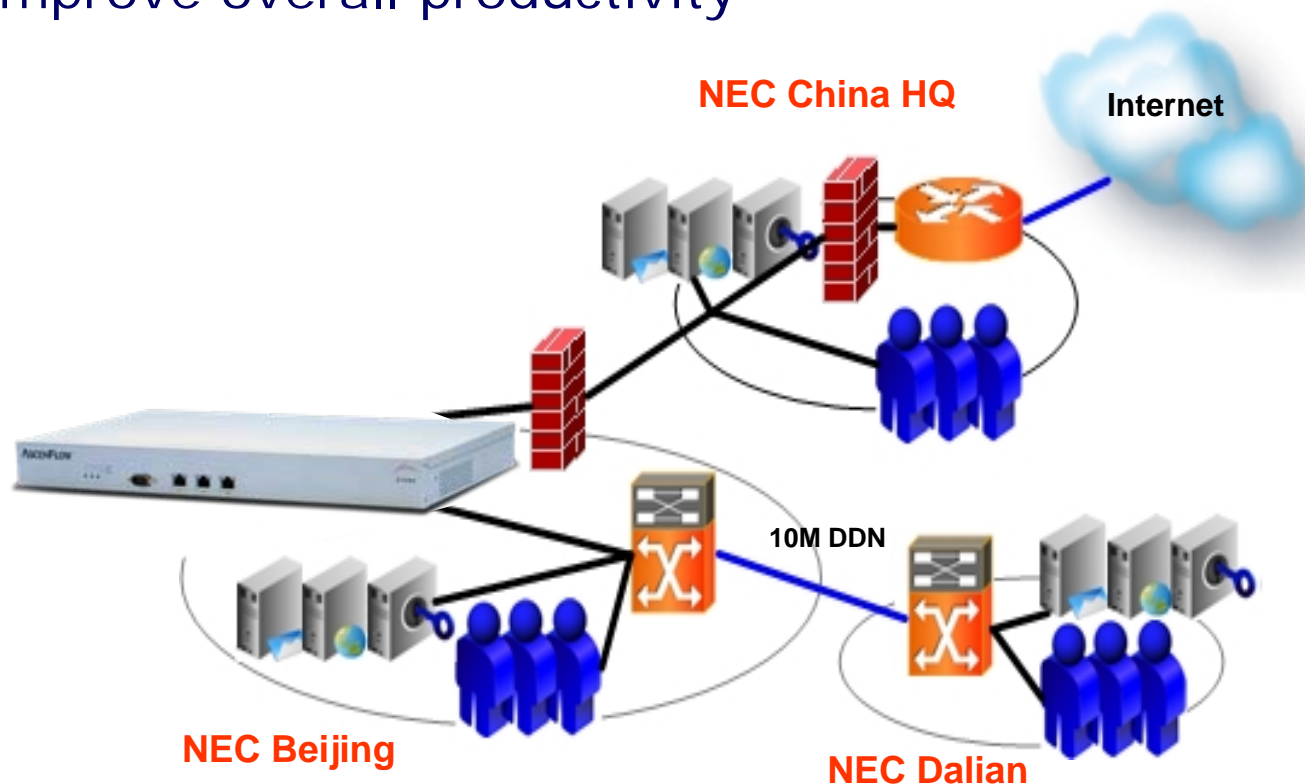
# TINP – Central Taiwan Cable ISP Group

- 30 units of Flow M1000 (20K USD) deployed in ISP backbone
- QoS control for P2P
- Policies to enforce value-add services (VOIP, Video Conferencing, etc)



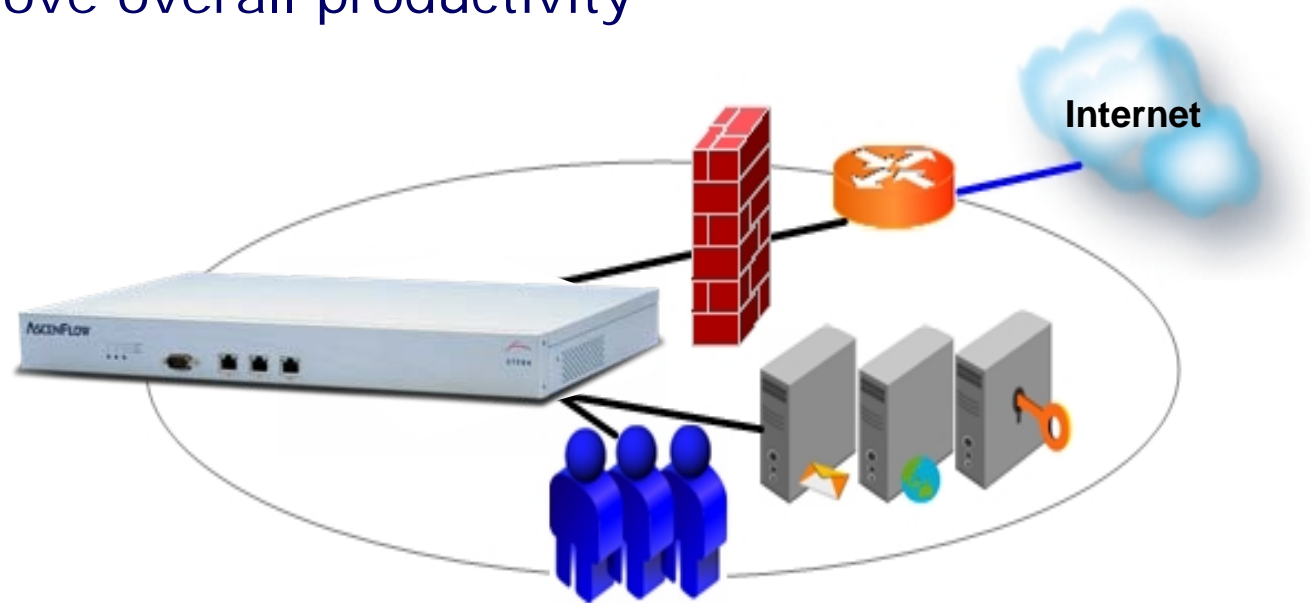
# NEC Beijing

- Limit P2P traffic
- Mission-critical application QoS (VoIP, Video Conferencing, Corp. ERP, etc)
- Improve overall productivity



# CNOOC – China National Offshore Oil Corp.

- Limit P2P traffic
- Mission-critical application  
QoS (VoIP, Video  
Conferencing, Corp. ERP, etc)
- Improve overall productivity



# Specification



# AscenFlow™ M50

- 3\*10/100 Base-TX
- Throughput: 5 Mbps
- Classes: 128
- Max. Connection: 50,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 256MB RAM



# AscenFlow™ M200

- 3\*10/100 Base-TX
- Throughput: 20 Mbps
- Classes: 512
- Max. Connection: 200,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 512MB RAM



# AscenFlow™ M501

- 5\*10/100/1000 Base-TX
- Throughput: 50 Mbps
- Classes: 1024
- Max. Connection: 500,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 1GB RAM



# AscenFlow™ M1001

- 5\*10/100/1000 Base-TX
- Throughput: 100 Mbps
- Classes: 1024
- Max. Connection: 1,000,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 1GB RAM



# AscenFlow™ M2500

- 6\*10/100/1000 Base-TX
- 2\*1000 Base-SX (optional)
- 1\*10/100 Base-TX
- Throughput: 500 Mbps
- Classes: 2048
- Max. Connection: 1,000,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 1GB RAM



# AscenFlow™ M5000

- 6 Expansion Slot
- 10/100/1000 Base-TX (optional)
- 1000 Base-LX (optional)
- 1000 Base-SX (optional)
- Throughput: 500 Mbps
- Classes: 2048
- Max. Connection: 2,000,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 8GB RAM



# AscenFlow™ M10000

- 6 Expansion Slot
- 10/100/1000 Base-TX (optional)
- 1000 Base-LX (optional)
- 1000 Base-SX (optional)
- Throughput: 1000 Mbps
- Classes: 2048
- Max. Connection: 3,000,000
- In-line Transparent Mode
- Hardware By-pass
- 64MB Flash
- 8GB RAM



***Thank You!***



**XTERA®**

