



Cisco Expo
2007

Service Exchange Framework Policy Management



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Enable Your Network
Empower Your Business

This presentation...

- ... is not technical, thou has some technical details...
... after all, Cisco is a technology company
- ... is not business, thou it talks about money
... after all, we're all here for money
- ... is not a lesson in philosophy...
... answer is simple: 42

Agenda

SEF – Service control
Overview

Market demand

Policy management – Functions

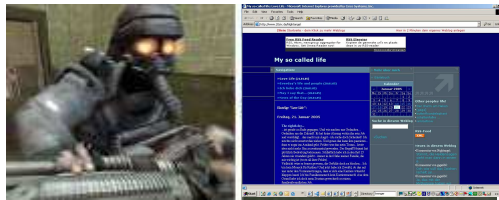
Policy management – Examples



Service Control Market Demand

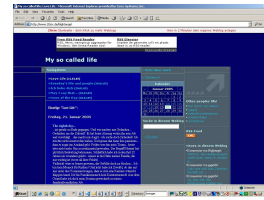


Broadband in a Consumer's World



Online Gaming
and Communities

Blogs



Customized
Content
(ie. podCasting)



Specific Knowledge



Users create their own UNIVERSE

- Peer Group dependent Identity and Behavior
High Degree of Customization
- Ubiquitous Access to Services – different locations,
different access methods and media
- Wide Service variety, New Services adopted quickly

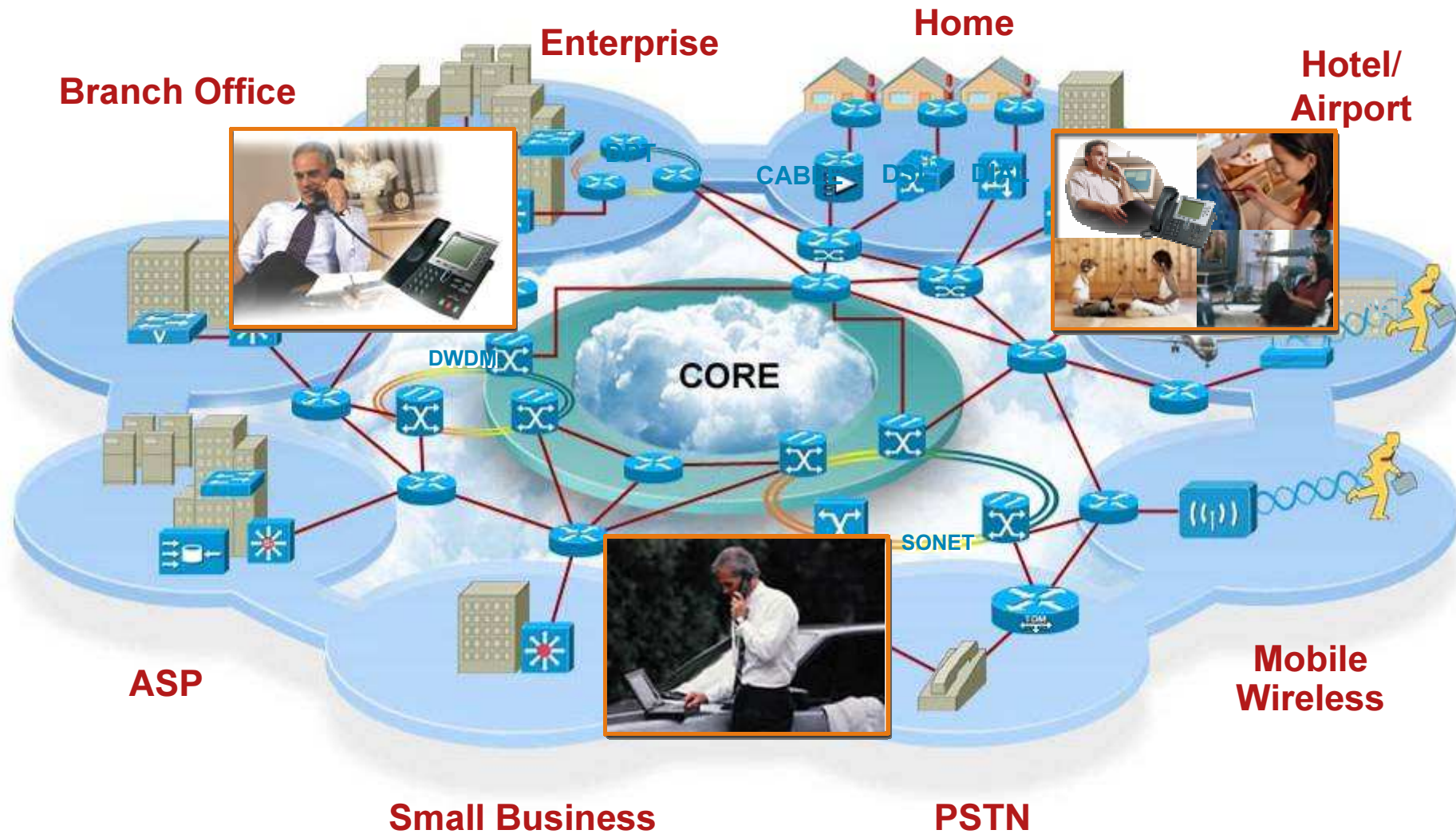
“The less control a company has over its marketing message, the better its credibility.”

“Brands no longer belong to a company but to the people who use [the company’s products]”

The Economist April 2, 2005

The User is King in Broadband – Success or Failure in the Broadband Market depends on how well the SP will be able to create and support the users Universe...

“Multi-Play” on the Move



Enabling the Personal Universe in a Networked World

Who is the User/Subscriber?

Young Anakin Skywalker



Grown-up Anakin Skywalker



Anakin Skywalker: Jedi Apprentice



Identity

Where can the User roam?

Anakin with PodRacer



Anakin with N1-Starfighter



Anakin with Jedi Starfighter



Mobility

Which Services can the User access/use?

Cloud City Laws & Policies
Policy Information Model (PIM)



Supreme Court and Senate Decisions based on Law: *Policy Decision Points (PDP)*



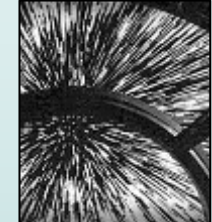
Wing Guard (Police) enforce decisions: *Policy Enforcement Points (PEP)*



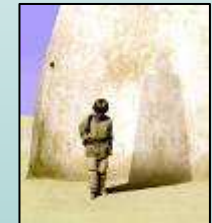
Policy

How to apply dynamic Changes?

HyperDrive: *Change QoS & BW*



Change Direction: *L4-Redirect*



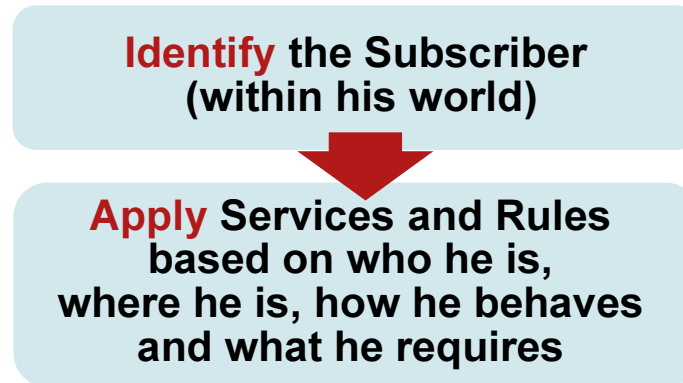
2 Lightsabers for a minute: *PrePaid Service*



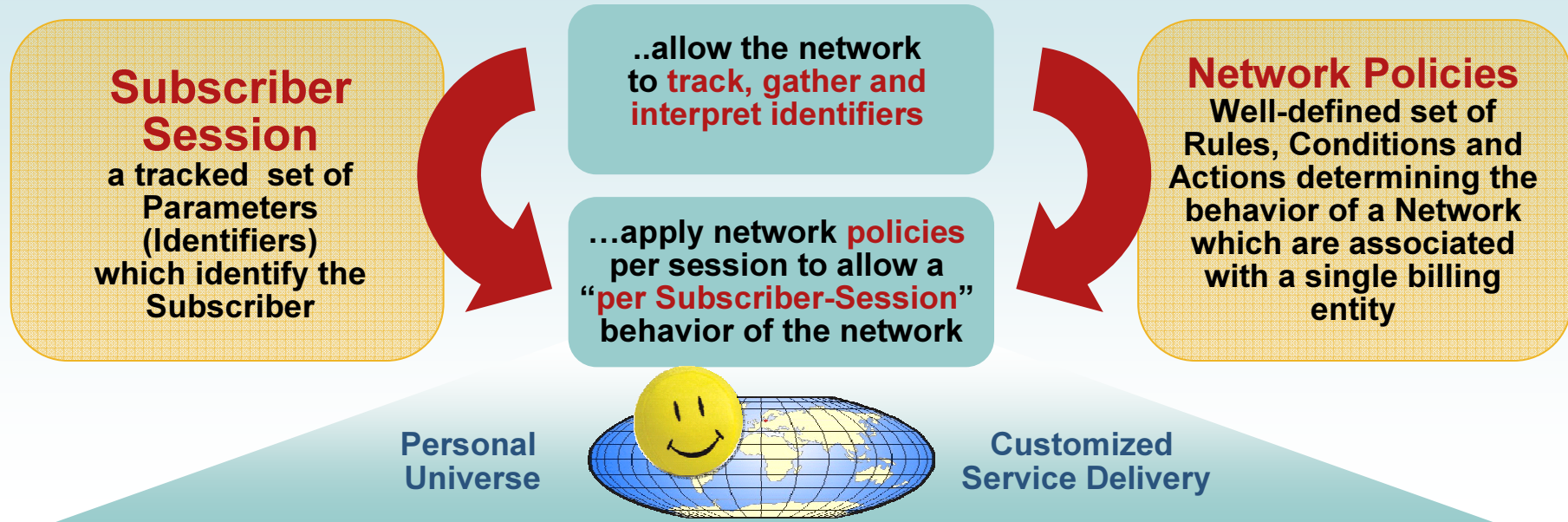
Dynamics

Enabling the Personal Universe in a Networked World

Requirements for
the customized
network....



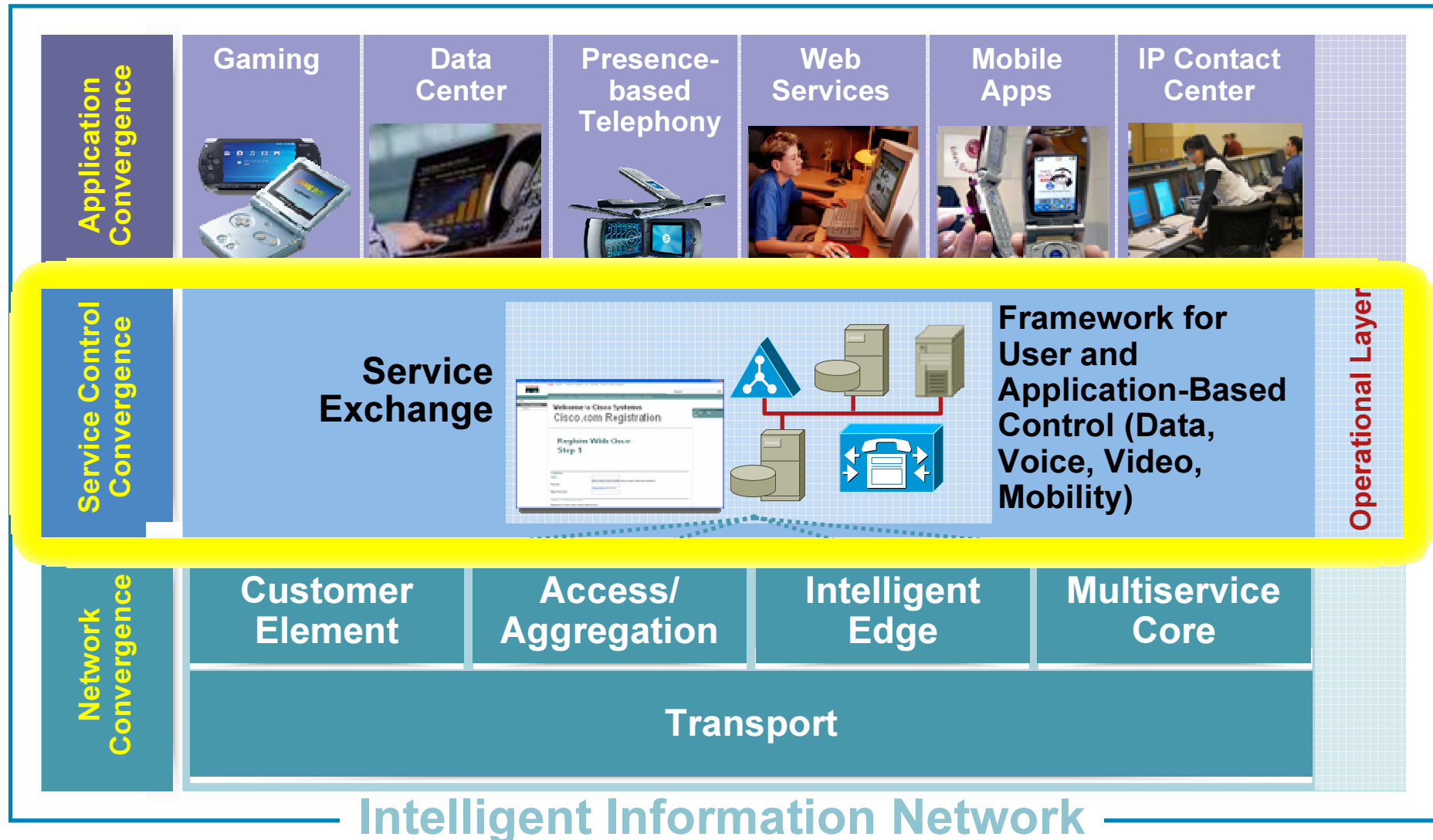
Creating the Personal Universe in a Networked World....



Service Exchange Framework Service Control

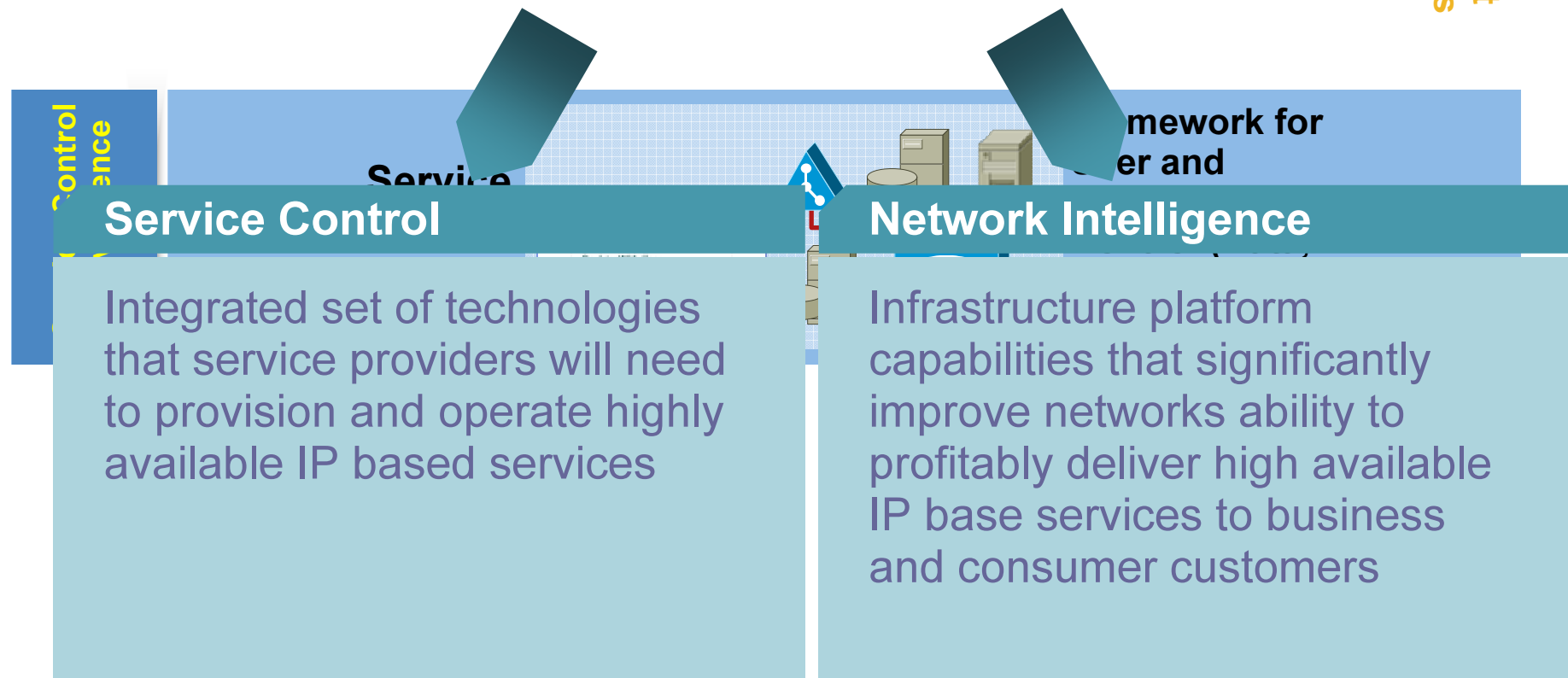


Service Control Convergence



Service Exchange Framework = Service Control + Network Intelligence

Intelligent
Operations



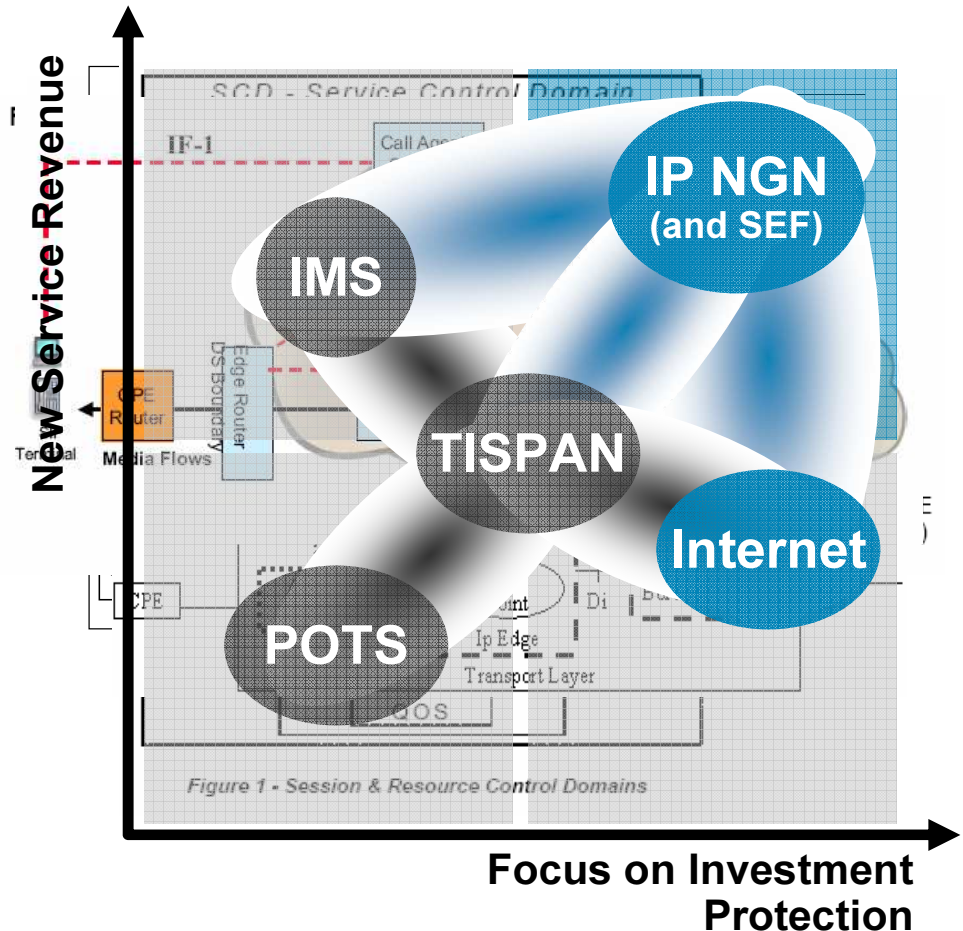
Service Control - Definitions

Events occurring in the network trigger
Execution of rules in real time resulting in
Decisions that are enforced by
Dynamically configuring the network for service delivery

- Events include:
 - User actions (Interaction with Portals, network logon/logoff)
 - Application services (IP telephony, Video services, P2P data)
 - Network conditions (network outage, time-of-day, congestion)
- Service Control - Dynamic Network Provisioning
 - Configure QoS real-time, manage peer-to-peer traffic, subscribers, services.
- Admission Control
 - Manage network resources intelligently and efficiently.

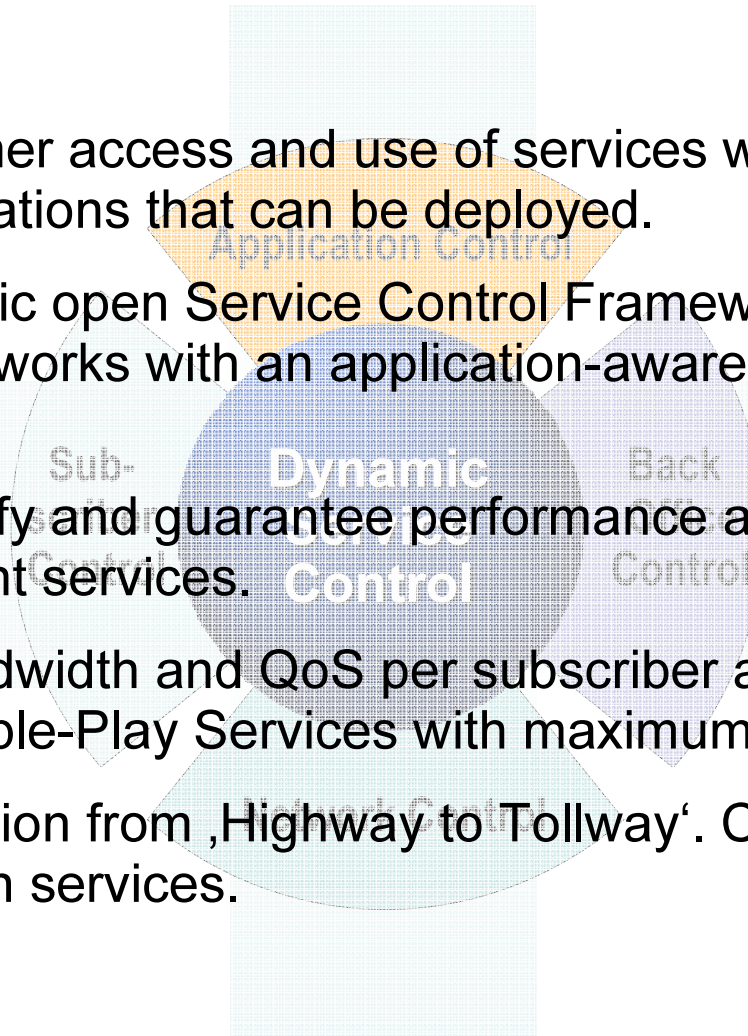
Survey of Existing Policy Control Architectures

- Policy control functionality is explicitly being defined in standards bodies across all access technologies and for the core:
 - WT-134 – DSL Forum
 - BRAS, BBNG, CPE Policy control
 - 3GPP/IMS Policy Decision Function/3GPP
 - GGSN Policy Control
 - Packet Cable Multimedia (PCMM)/CableLabs
 - CMTS Policy Control
 - ETSI / TISPAN
 - RCEF and BGF policy control
 - MSF – core network policy control
- Common goal, but not a common approach
- Many SPs are looking at services that go beyond defined standards today
 - Respect them but don't let them stifle business opportunities
 - SEF for sale today, extends capability for tomorrow



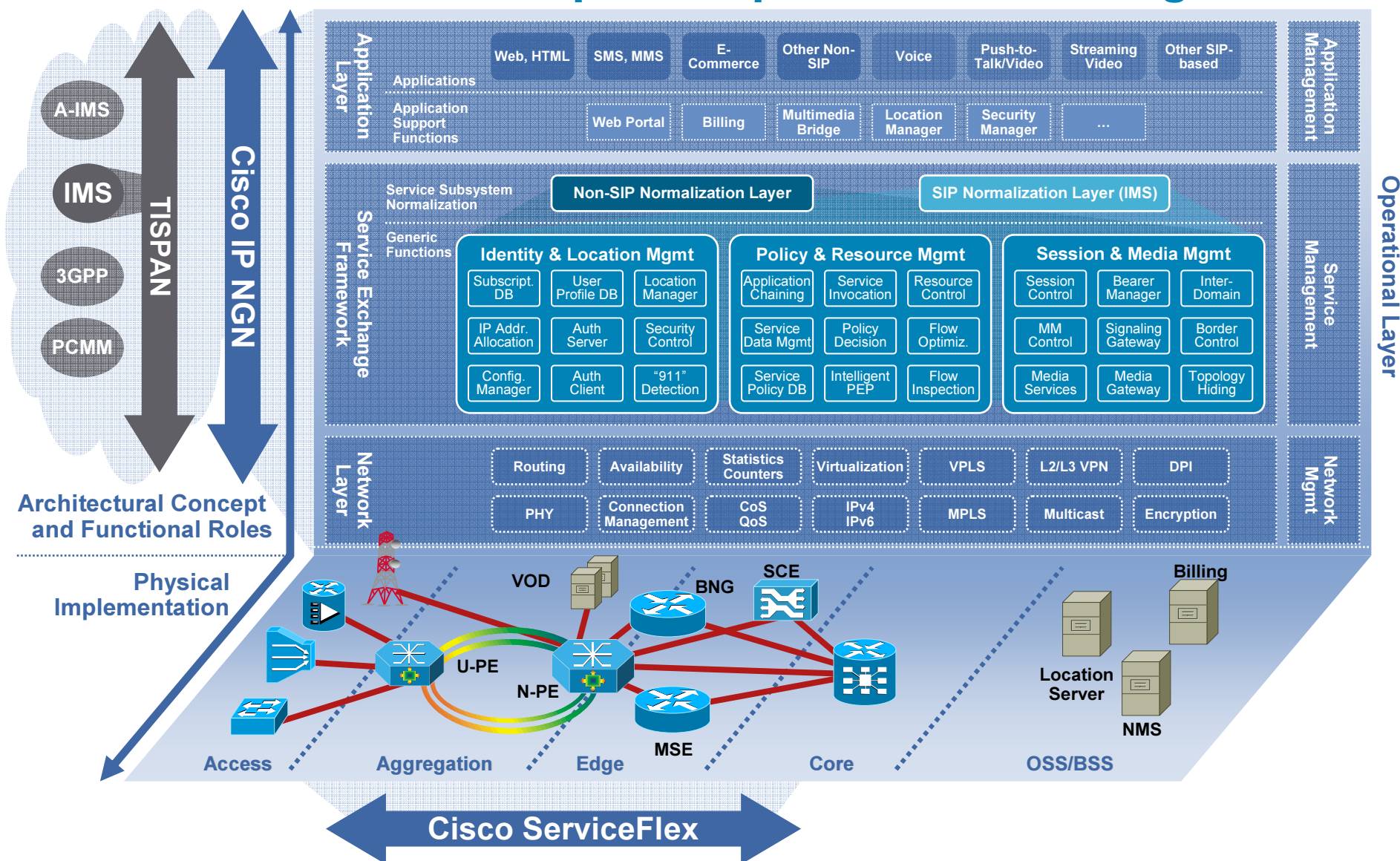
Dynamic Service Control

- Control customer access and use of services with no limit on the types of applications that can be deployed.
- Access-agnostic open Service Control Framework enhances broadband networks with an application-aware Service Control Point.
- Identify, Classify and guarantee performance and charge for limitless content services.
- Real-time Bandwidth and QoS per subscriber and application to deliver real Triple-Play Services with maximum efficiency.
- Enables transition from 'Highway to Tollway'. Create and deploy next generation services.



Cisco IP NGN and Cisco ServiceFlex

Architectural Concept vs Implementation Design



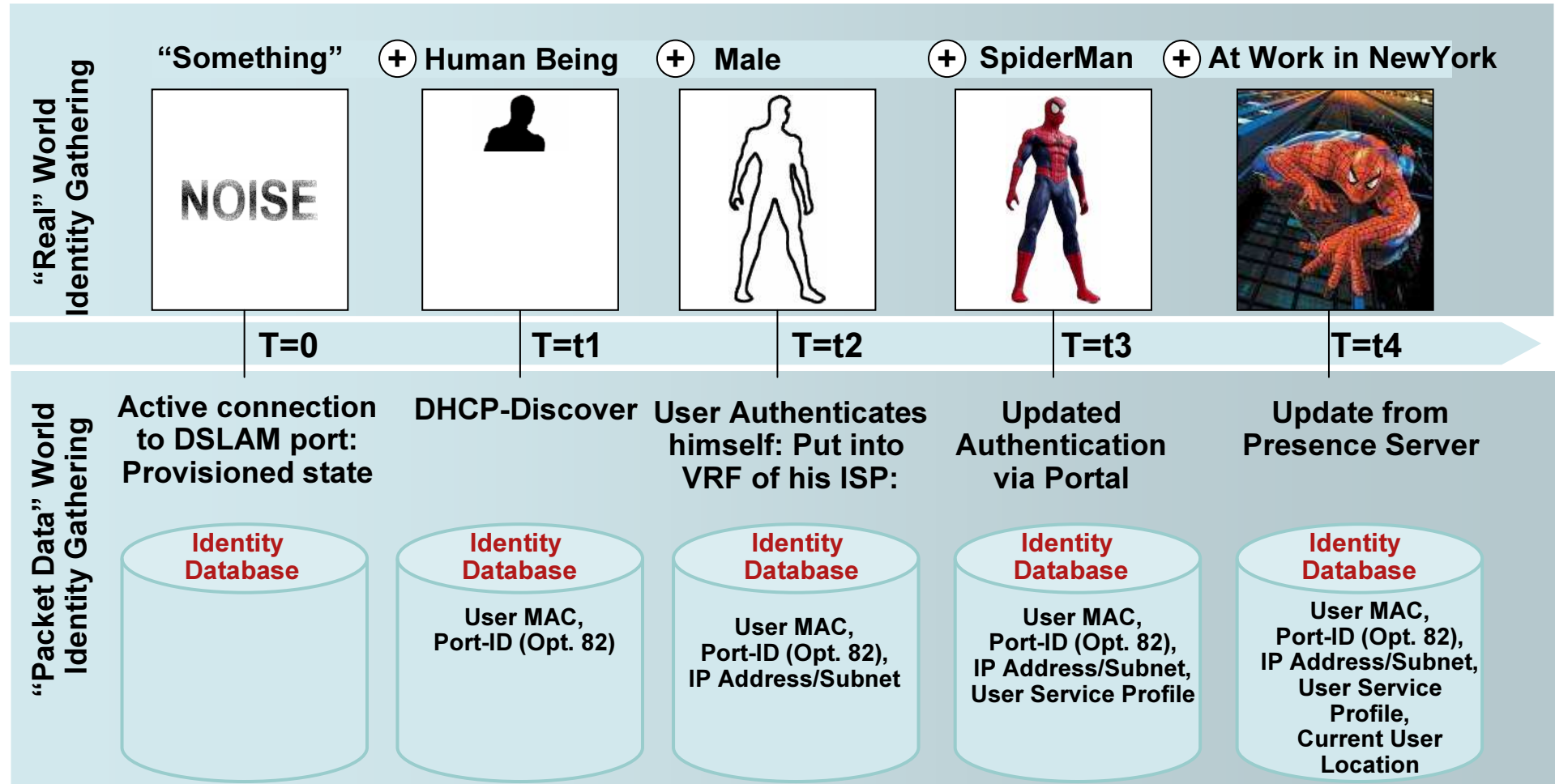
Policy management Functions



Identity, Mobility, Policy, Dynamics

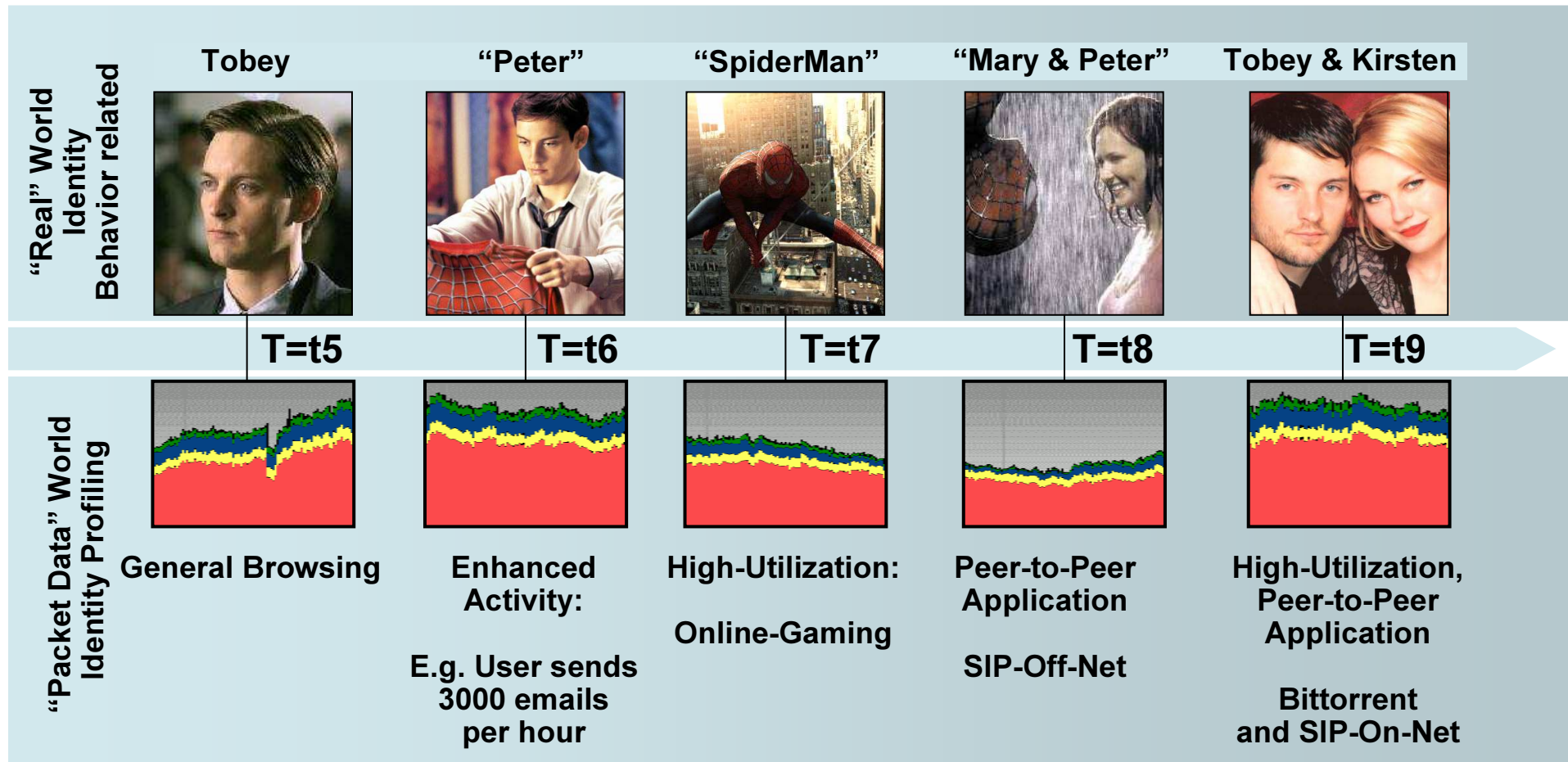
Identity and mobility: User Identification in a Packet Network

Customization is about knowing your customer...



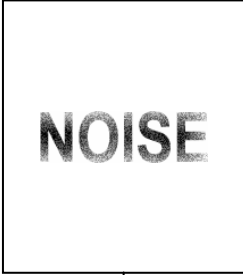
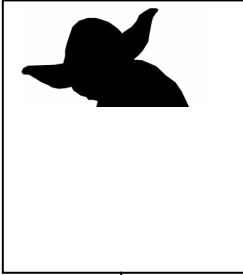
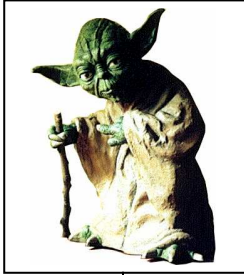
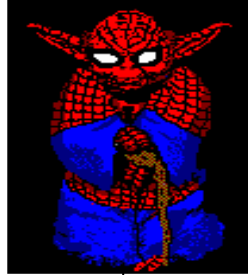
Policy and dynamics: User Profiling & Analysis

Identity Database filled and changed over time...



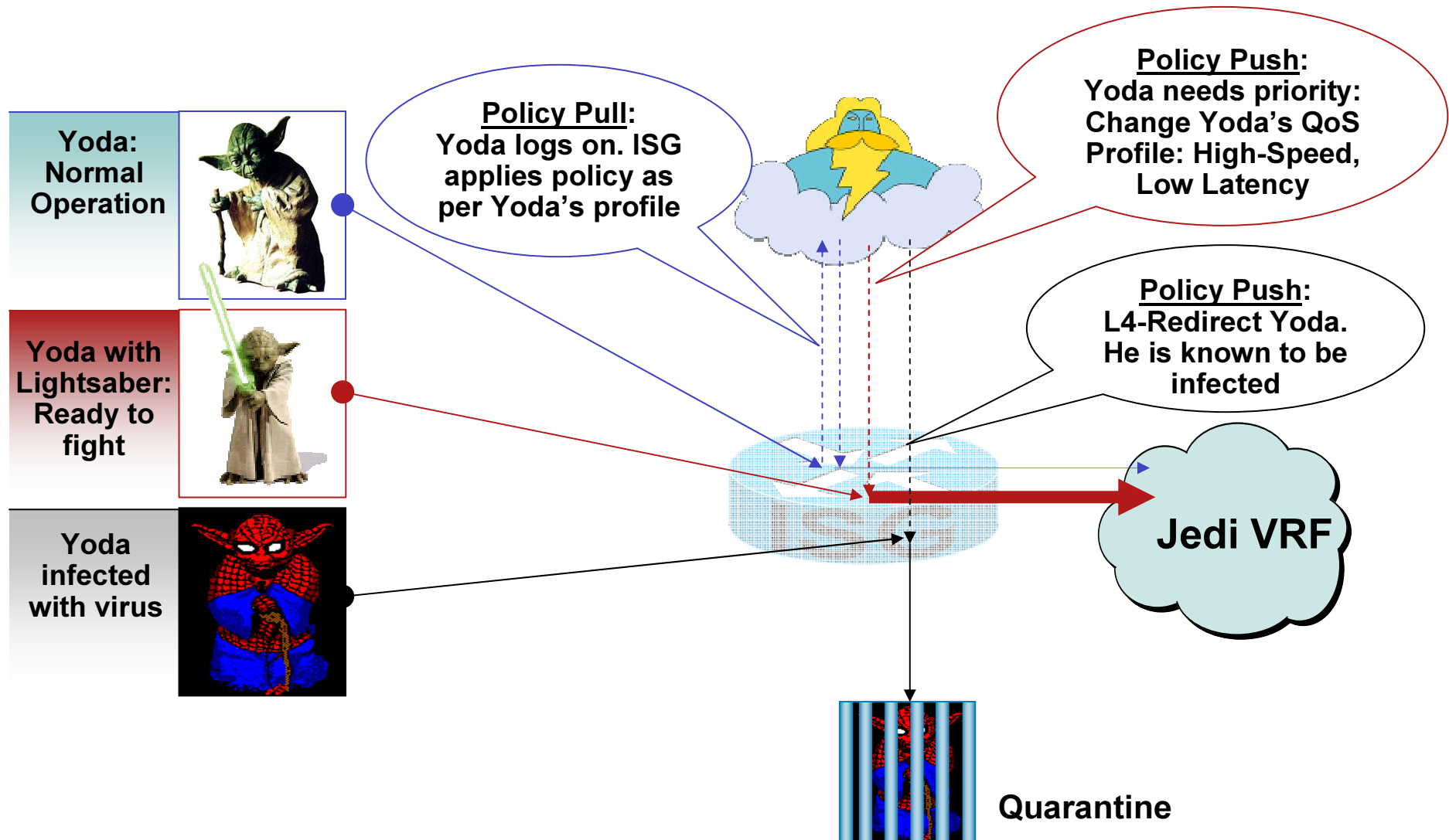
... the network may treat you according to your behavior.

Applying Policy: *Events, Conditions and Actions*

Identity DB	"Something"	"Creature"	"Humanoid"	Yoda	Yoda !?!
					
	T=0	T=t1	T=t2	T=t3	T=t4
Event	DHCP-Discover (w/ Option 82, PortID)	Port-ID Auth. failure	User Standard login at Portal	Updated login at Portal: Yoda	ISP security alert: Yoda infected with Spiderman virus
Condition	Always	Always	Successful Authentication	Successful Authentication	Traffic from Yoda-IP-Addr
Control Action	Authenticate PortID or Mac-Addr	Authenticate User via Portal			Re-Authenticate User via Portal
Traffic Action		L4-redirect all traffic to Portal	Allow Internet Access; No access to adult content	Allow access to Jedi community (place into Jedi VRF)	Quarantine infected Yoda (no access anymore)
"Policies"					

Policy Distribution: Pull and/or Push

“May I?” or “You have to!”



Policy Management Examples



Personalized Subscriber Management: Subscription Services Example

Personalization via Self Selection



- Simplifies the end user experience
- Personalize per user including self- subscription and account refresh, e.g., new consumer service activation

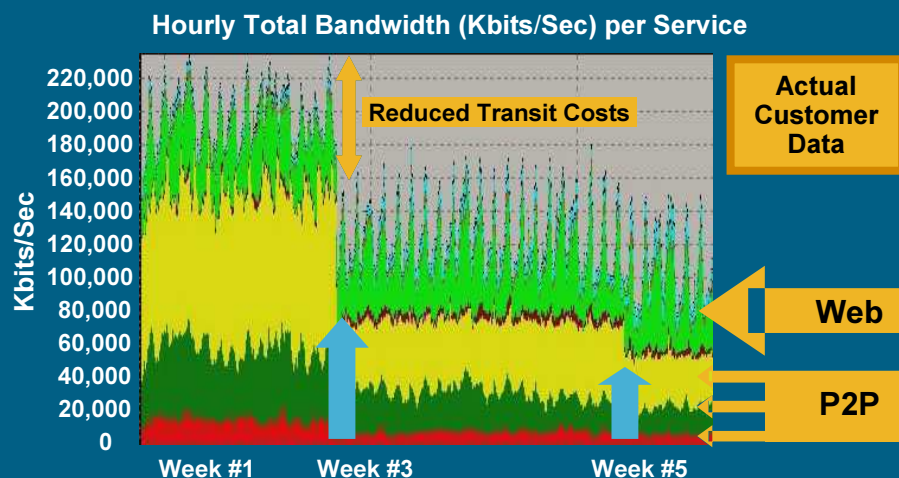
Content Filtering



- Subscriber-managed parental control
- Basic website blacklisting provided free of charge
- Comprehensive filtering and security for a small monthly subscription

Personalized Subscriber Management: Operational Services Examples

Service Prioritization via Packet Flow Optimization



Managing P2P Applications

- Enable new business models between content and service providers

Detect and manage affiliated applications and align QoS

Co-branding and fee sharing

Implement Fair Use Policy



- Eliminates bandwidth bottlenecks
- Enhanced user experience

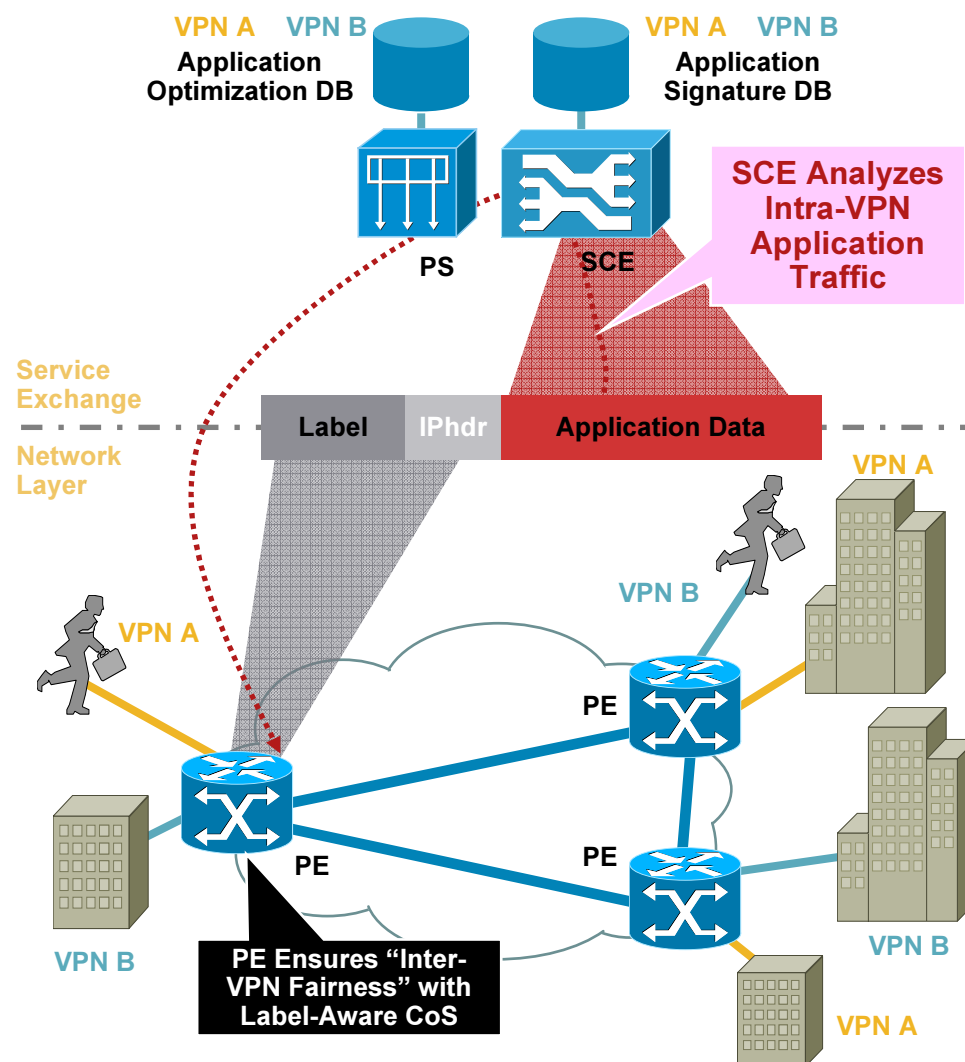
Usage	Less Than 2.8GB	Less Than 4.2GB	Less Than 5.6GB	Over 5.6GB
E-mail + WWW	No Limit	No Limit	256 kbps	256 kbps
Audio/Video Streaming	No Limit	128 kbps	65 kbps	48 kbps
P2P	48kbps	28 kbps	28 kbps	16 kbps

User Quota Based on 7-Day Timeframe

Application-Aware VPNs:

Optimizes Business Applications

- AA VPNS concept extends traditional L3-VPN capabilities
- SCE acts as “Application-Aware VPN Engine”
 - Discovers subscribed L3-VPNs’ topology
 - Analyzes application traffic with deep-packet inspection
 - Discovers active applications and tracks performance
 - Optimizes application performance as required by pushing policy updates onto PE



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Broadband Security

Broadband as a **shared** medium is ...

- Incubator for new blended media applications

- Refinery for efficiency gains

- Playground for collaboration across the human network

Broadband is a **community** asset. It needs protection.

Secure Broadband instantiates Cisco's IP NGN Security Architecture to detect, isolate, and remedy intended & accidental threats to **broadband community assets** while also offering choices for individuals and business to subscribe to **personalized security services and management**.

The Secure Broadband Offer

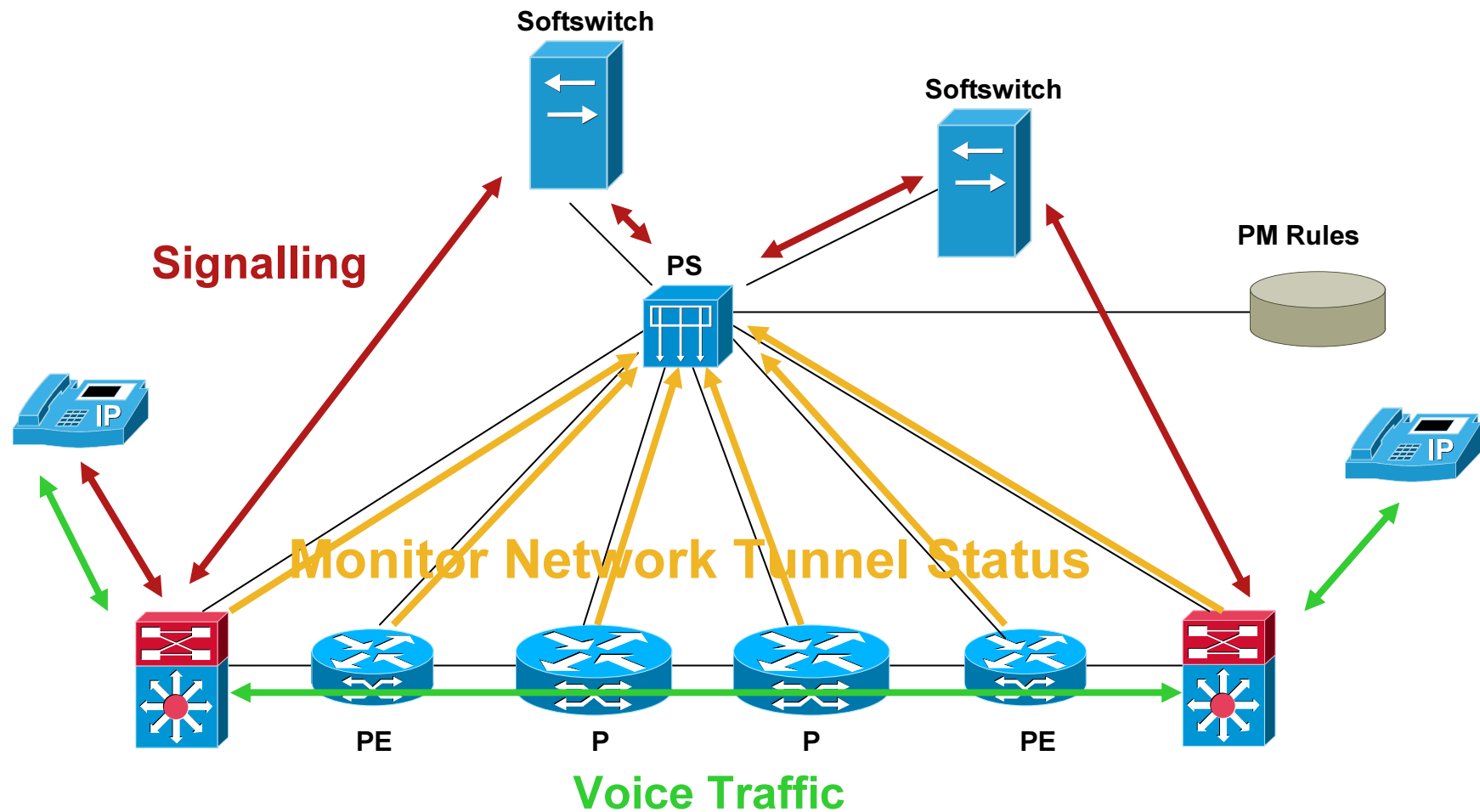
- Extends protection for individuals & businesses

- Provides insurance and inoculation against Internet viruses, spam, and more

- Empowers consumer with choice of remedies

Call Admission Control Example

Voice over IP Call Admission Control



Video Admission Control

Why

- Video can't tolerate congestion on the network
- Coordinated admission control decisions must be made in real time as applications are added

Multicast video, VoIP telephony, Video telephony, Interactive Gaming

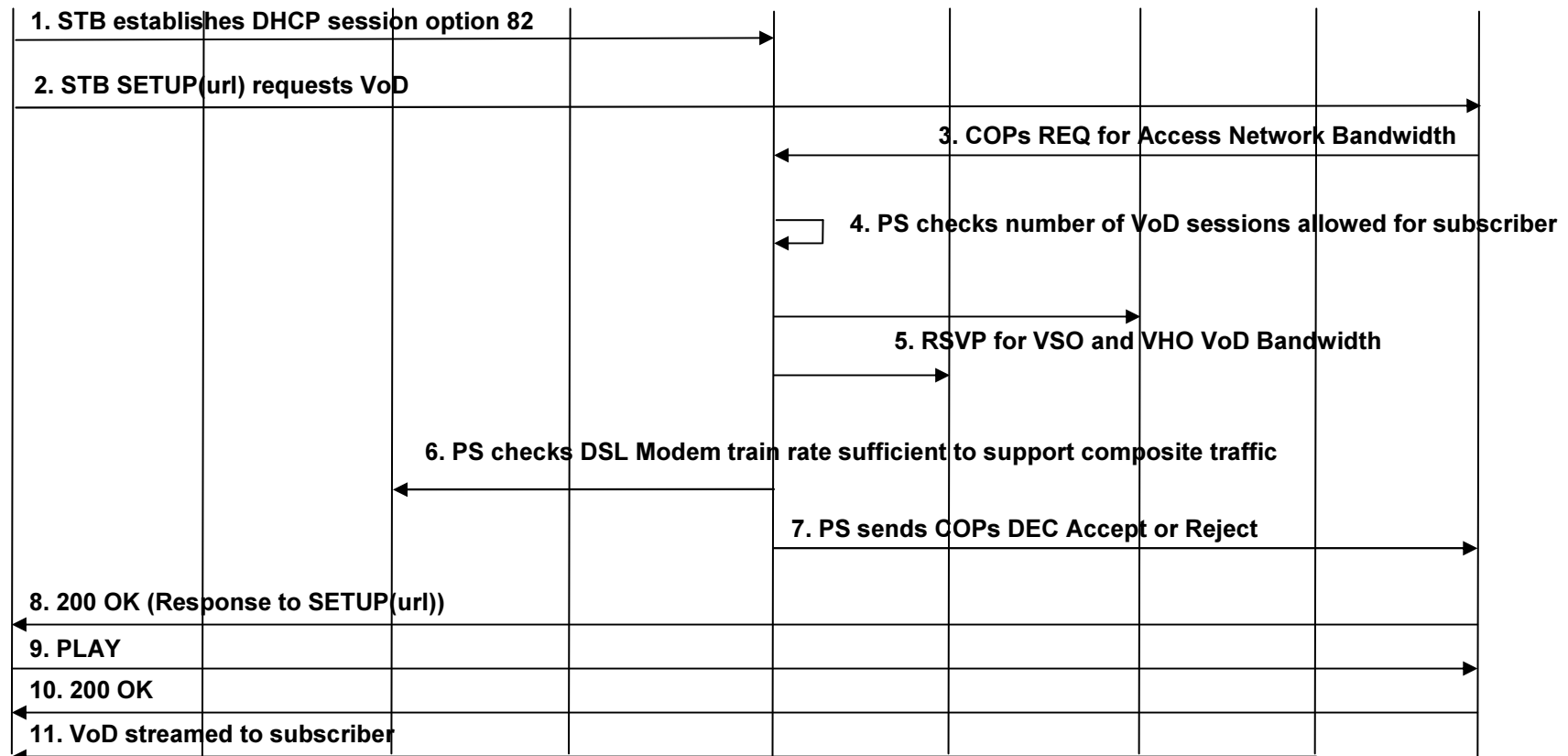
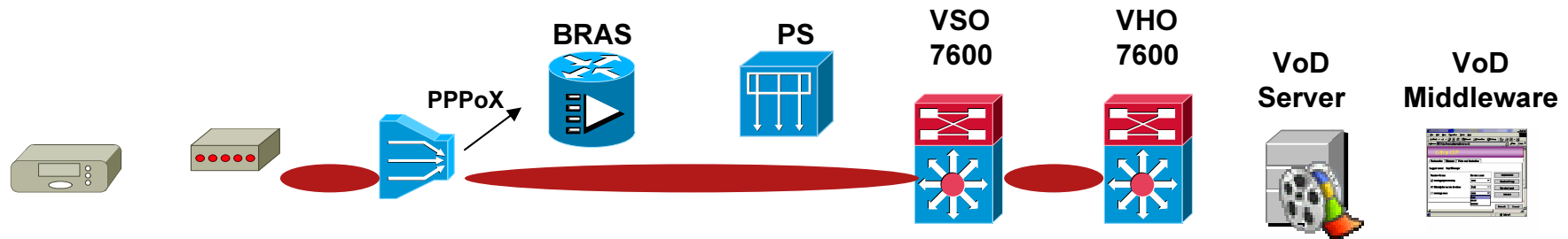
Key Features

- End-to-end admission control including network capacity and subscriber authorization
 - End user request triggers automated Video provisioning
- Uses best available combination of on-path/off-path techniques

Key Benefits

- Ensure quality VoD service delivery – prevents congestion
- Eliminate over-provisioning – reduce CapEx and OpEx

Integrated Video CAC – IP DSLAM Access Network



Policy Management Summary



Policy management





Ne zaboravite da se prijavite na Cisco
Networkers 2008!

<http://www.cisco.com/web/europe/cisco-networkers/2008/index.html>

