



tiscali

Milano, 21 febbraio
ciscoday2006

Cisco Service Exchange Framework and Policy Management

Agenda

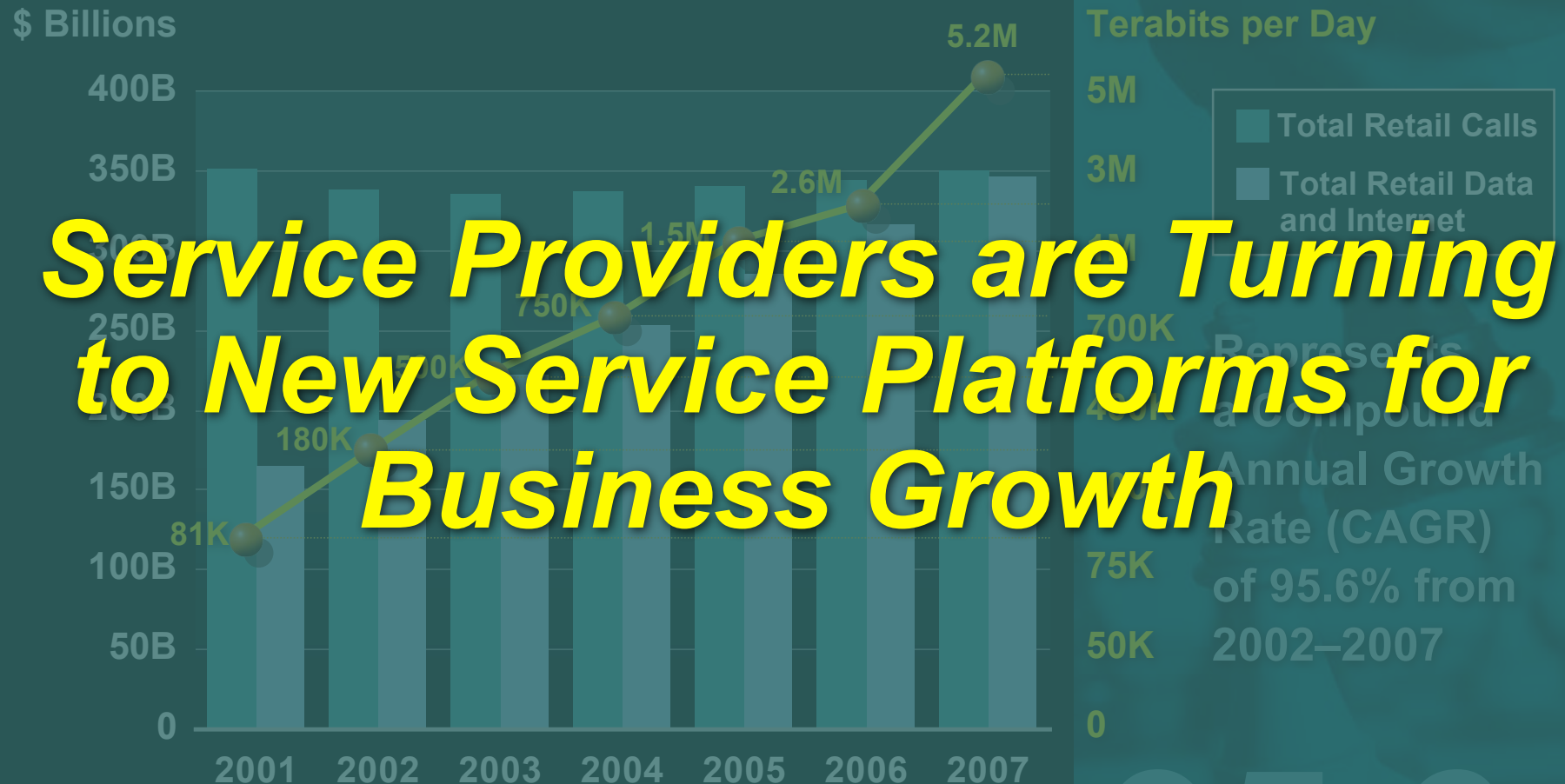
**Service Provider Market Dynamics
and New Revenue Opportunities**

**Service Exchange Framework
Application and Service Possibilities**

**Service Exchange Framework
Policy Management and services**



SP Business Model Dilemma



Consumer Needs Are Evolving Beyond Connectivity: **Requires Integrated Voice / Video / Data with Mobility**

Physical and Social Context Determines the Application Mix Used

Home Office / VPN



Online Gaming



IM / Group Chat



Internet Access



IPTV/VoD



IP NGN Infrastructure

- **Subscriber Personalization:**
Actively manage the subscribers identity and adjust the service offering/packaging (i.e., different identity in different worlds)
- **Mass Scalability:**
Leverage mass-customization principles:
Service-bundling; subscriber-grouping and per-group processing
- **Service Evolution:**
From transport-based service models (time/distance/volume) to content-based service models

Business Needs Are Evolving Beyond Connectivity **Requires Highly Available, Secure Managed Services**

Helping Businesses Reduce Cost / Free Resources
to Focus on Core Competency

Collaboration



Convergence



Web Services



Applications



Storage/Computing



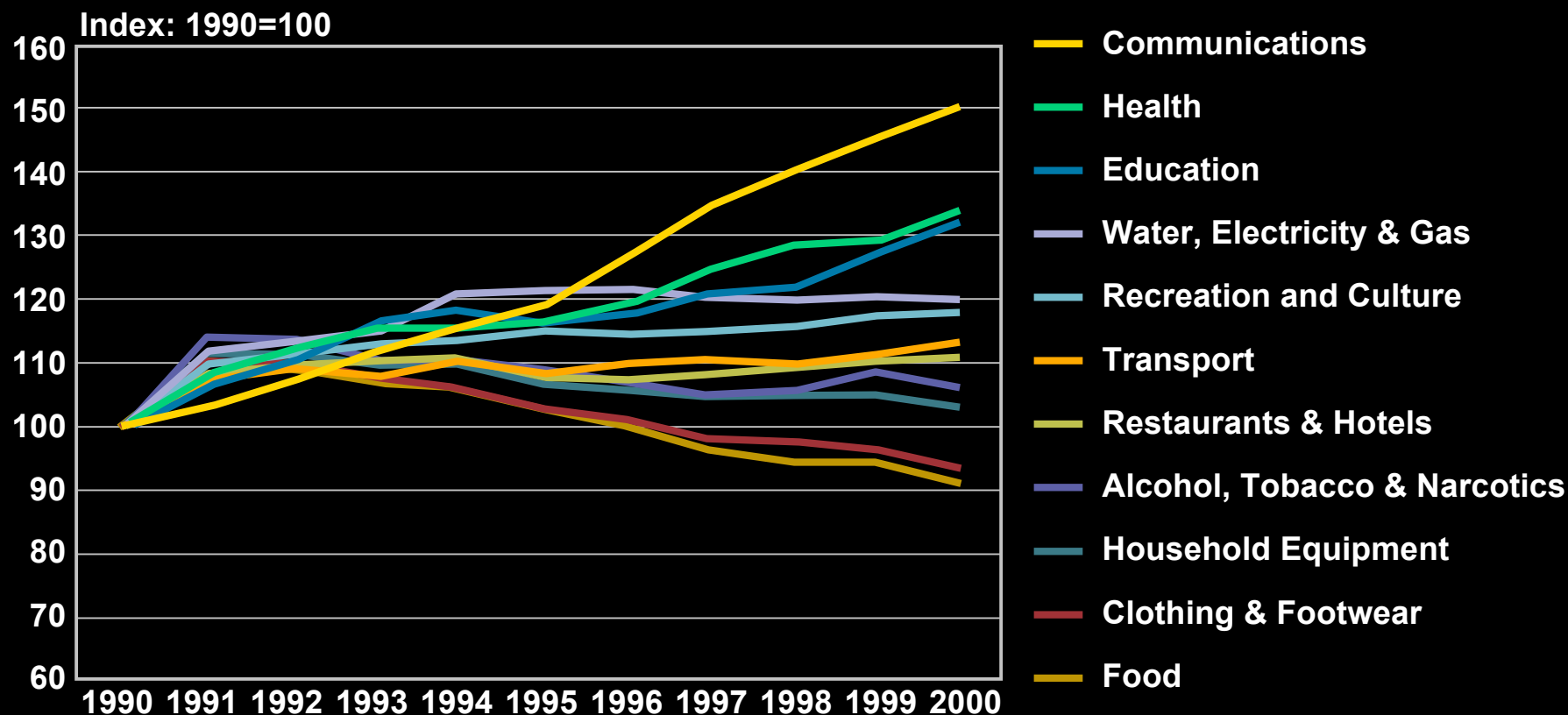
IP NGN Infrastructure

- **High Availability:**
Managed networks can help ensure business continuity in the face of everyday interruptions and unexpected disasters
- **Application Awareness:**
Allows operators to classify applications, apply application-specific QoS policies while metering / billing for services on a converged network
- **Service Security:**
Providing firewalls and intrusion detection systems (and keeping them updated) and using encryption for all sensitive data

Market is Primed...

Consumers are Spending Heavily on Communications

Evolution of Household Spending in OECD Countries, 1990–2000



Source: OECD 2003

...And are Willing to Pay More for Valued Services

Security
Simplicity
Integration
Personalization
Control

Speed
Reliability
Low Cost

Voice
Data
Video

Wired
Wireless

Innovation



Share households spent on communications rose by 50% in developed countries over the past decade

Creating a Multitude of New Service Opportunities...

Example: Residential Broadband Services

Integrated Networks, Content, and Entertainment Services to Move Up the Value Chain with the Customer

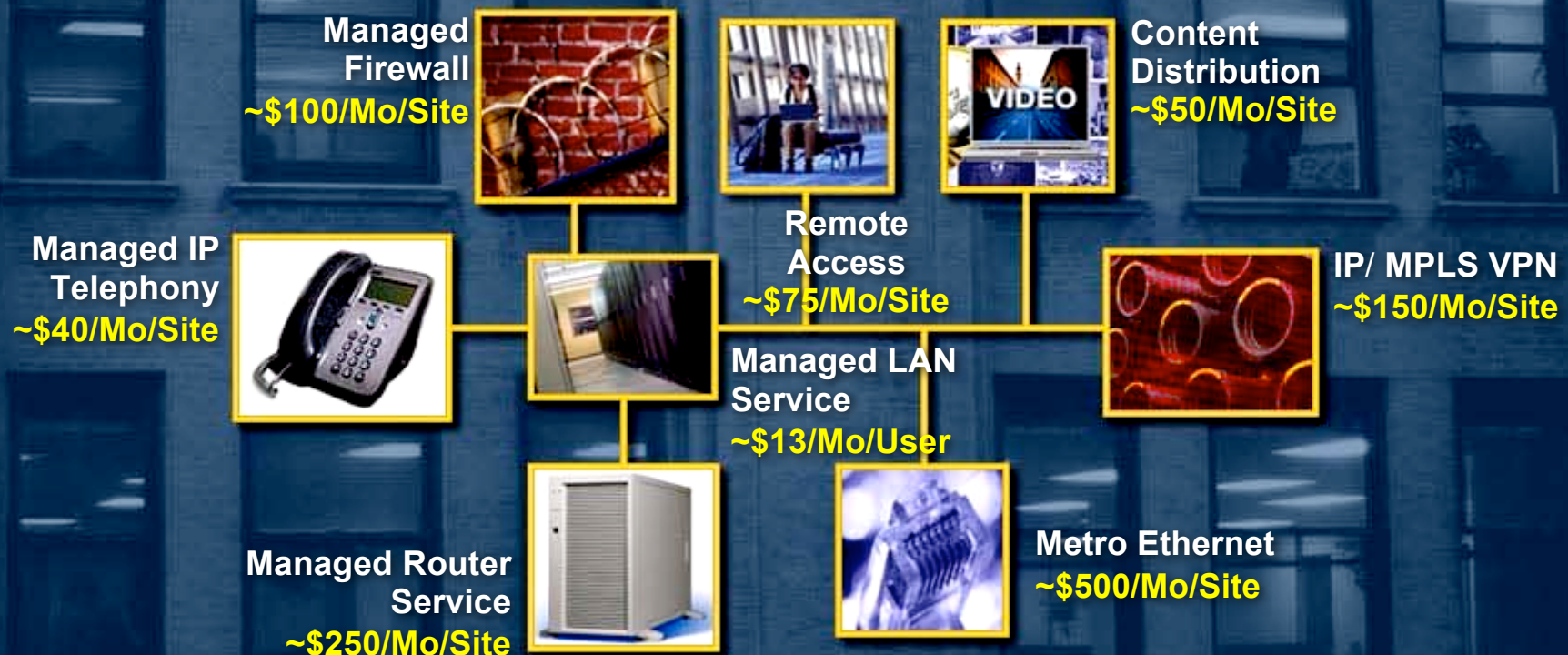


End-to-End Intelligent Network

Creating a Multitude of New Service Opportunities...

Example: Managed Services for SMBs & Enterprises

Integrated Networks and Services to Move Up the Value Chain with the Customer

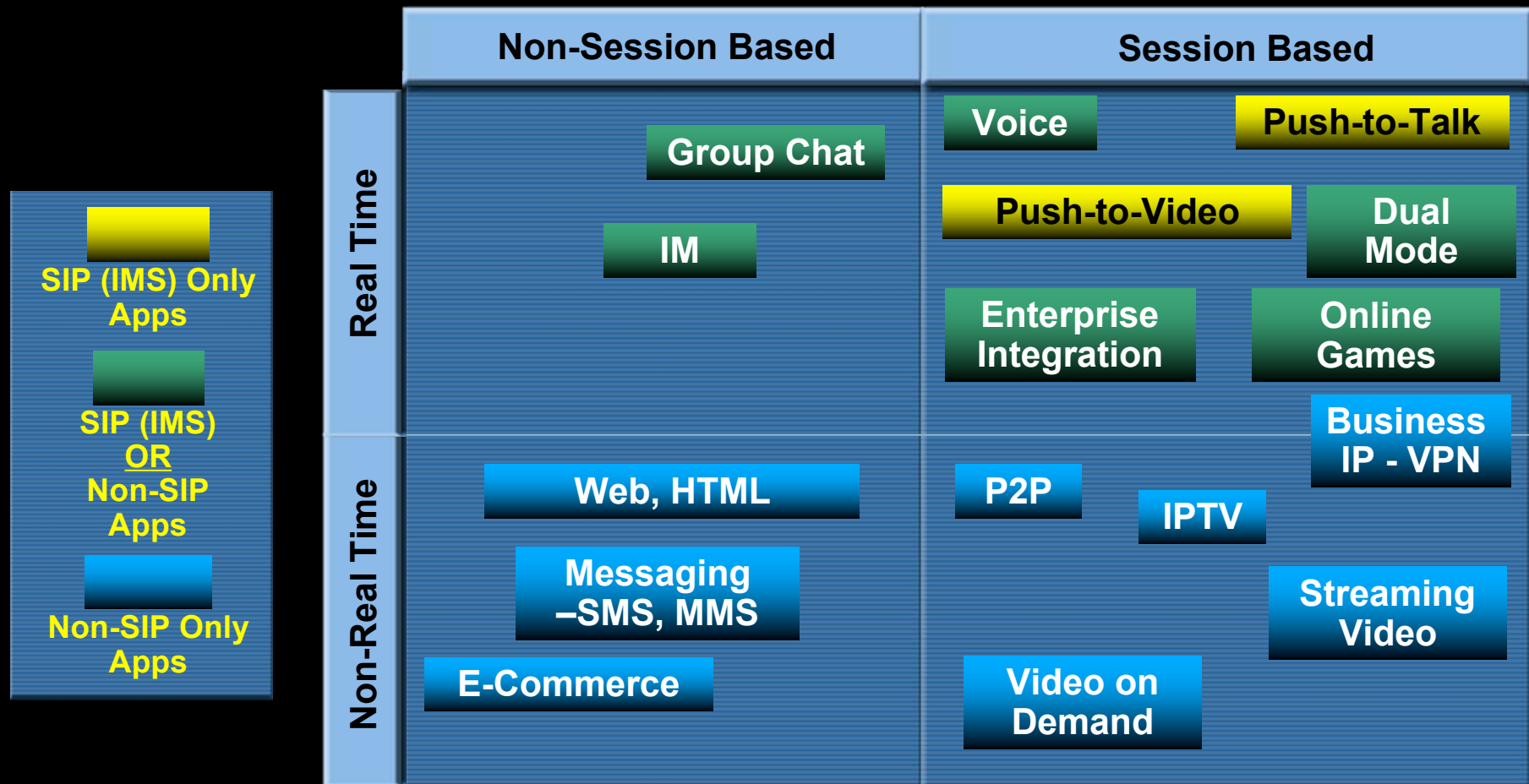


More Than Just Revenue

Other Tangible Benefits Can Be Measured

 Market Share	 Competitive Position	 Customer Retention	 Advancing Up the Value Chain with the Customer
Services crossing over into other segments traditional areas	Deploying services as defensive move versus competitors	More services per customer reduces churn	Deploying unique services fends against commoditization or being relegated to 'only transport' for application providers

Today's Universe of Applications Requires Support for SIP and Non-SIP Applications



What is IP Multimedia Subsystem (IMS)?

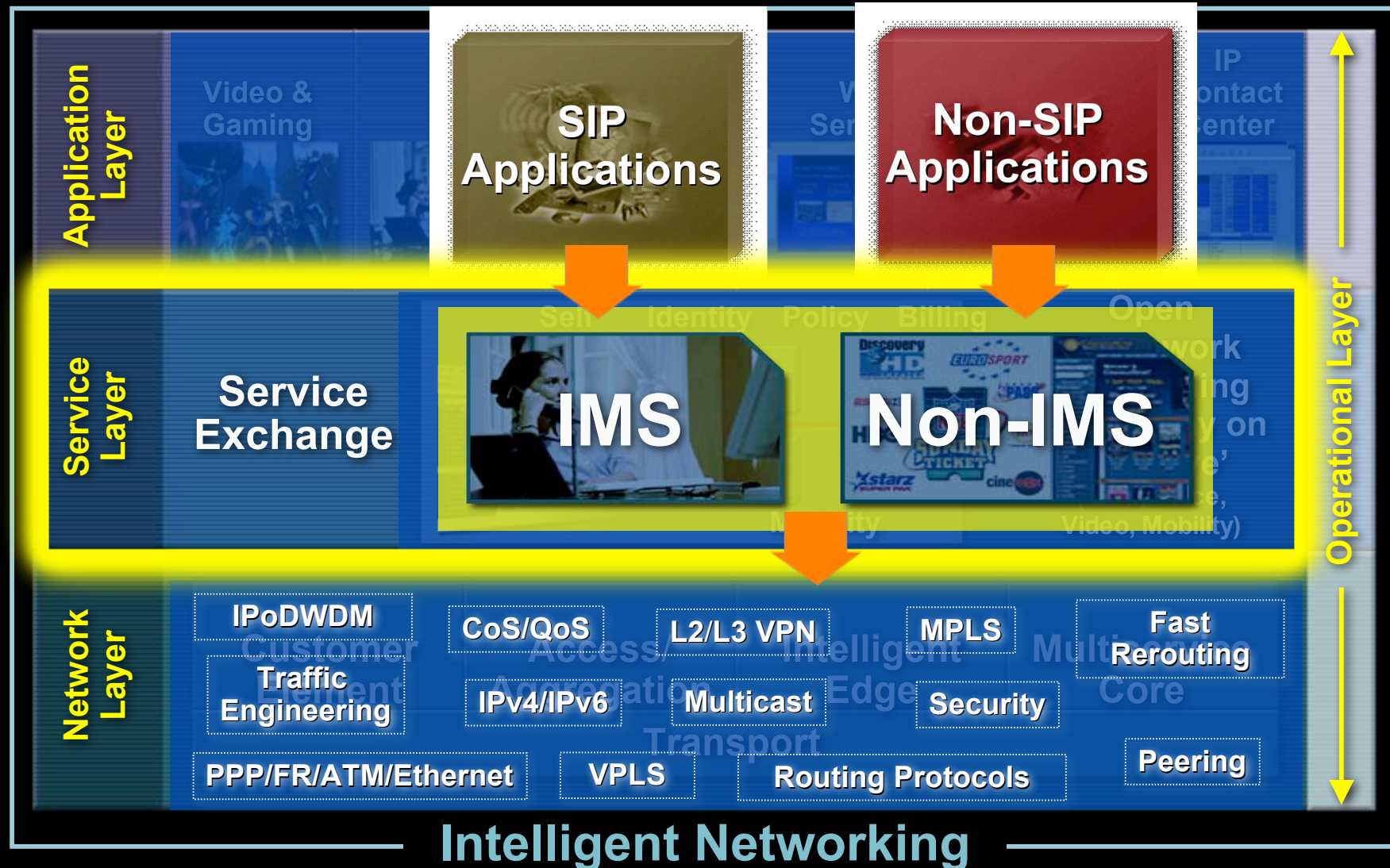
A standards-based effort developed as a means for voice-centric mobile operators to more efficiently deploy and handle SIP services

- Layered architecture—separates transport, control and application functions
- Access-agnostic—initially defined for mobile carriers, but allows convergence of fixed and mobile networks and applications
- Real-time IP applications—Enhances and “blends” SIP-based services



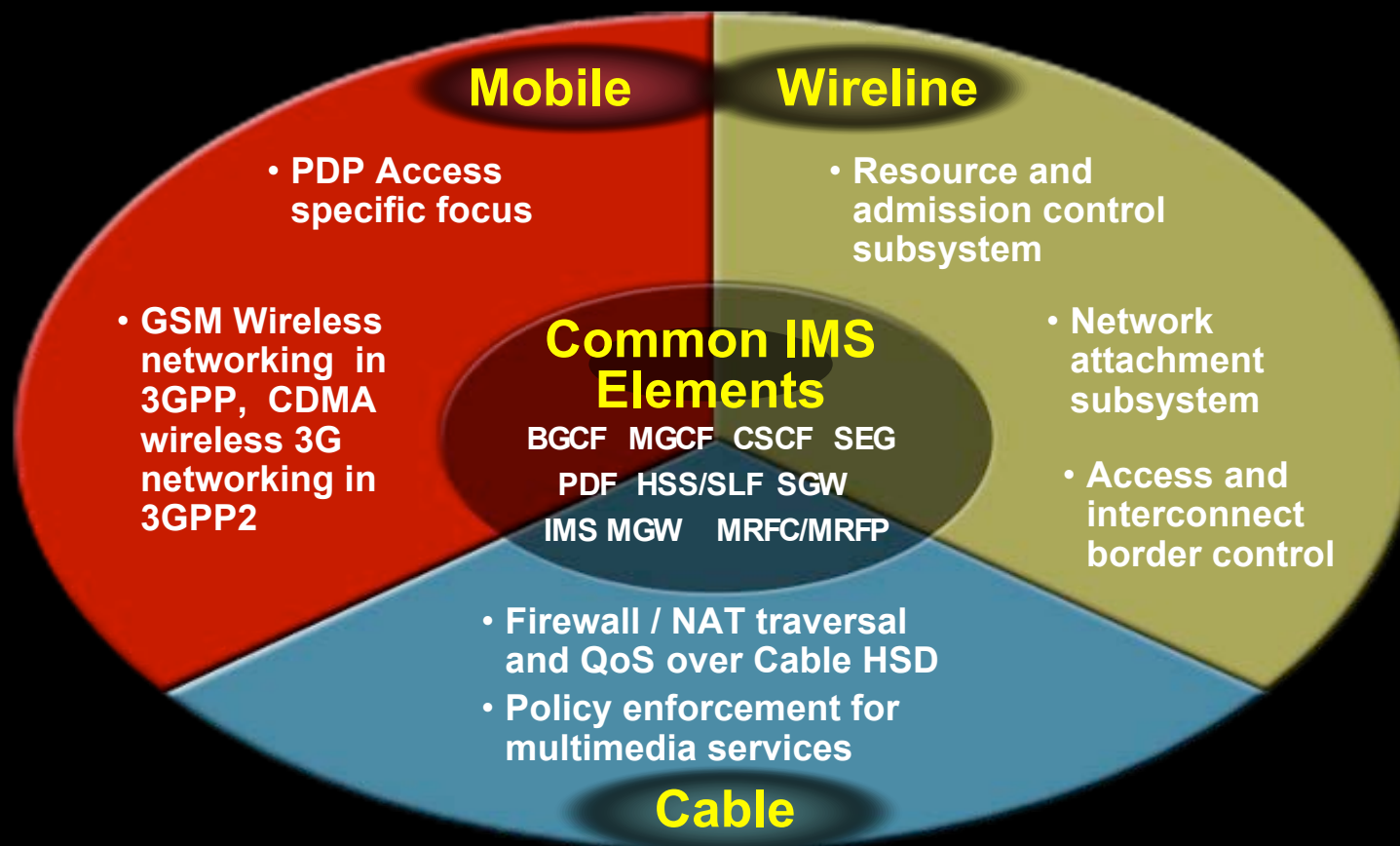
Service Exchange Framework

Comprehensive Support for BOTH IMS and Non-SIP Apps



Common “IMS” Elements and Segment Differences

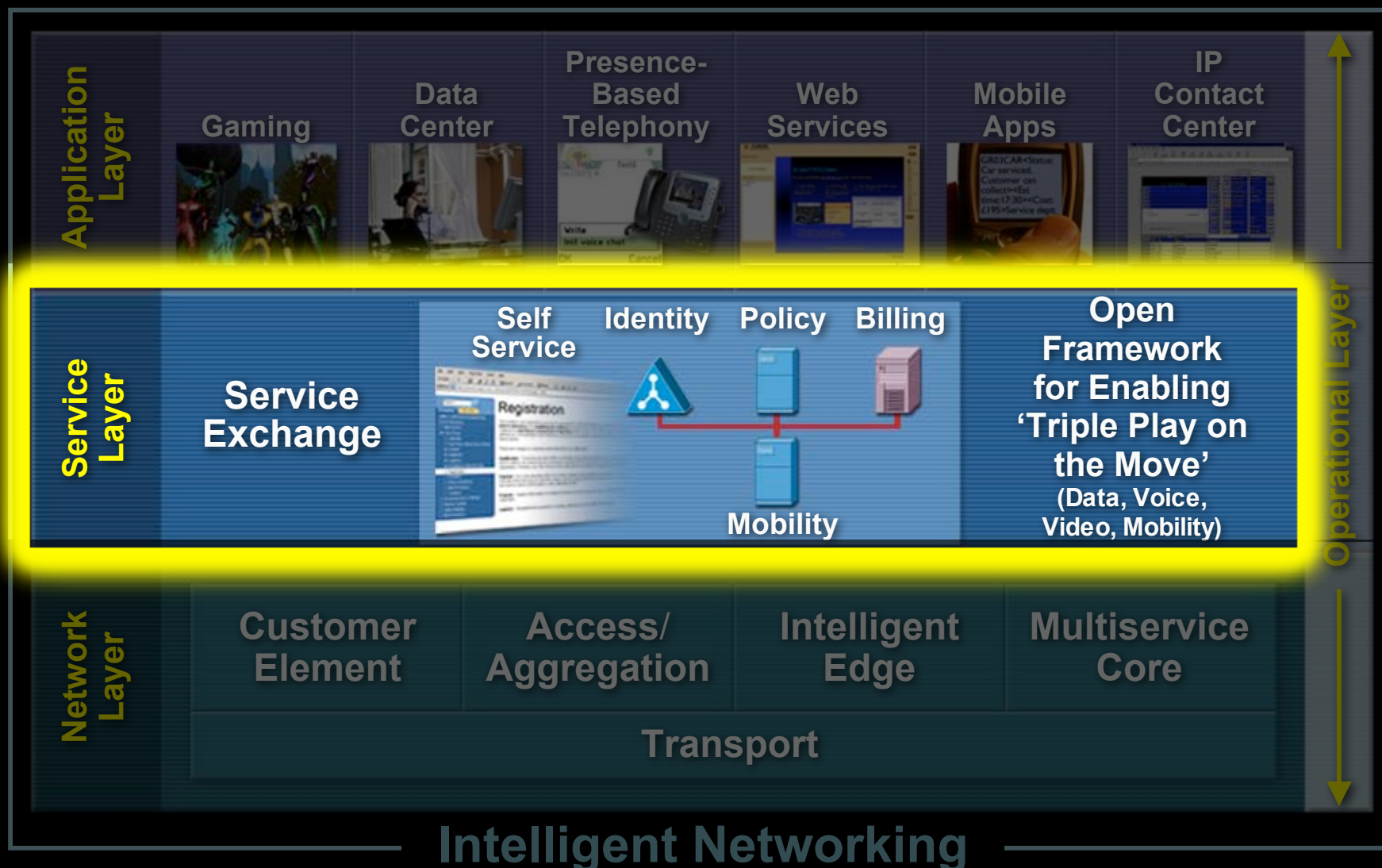
One Size, Doesn't Fit All... Exactly



Vendor IMS Strategies Must Be Flexible to Adapt to Each Segment's Needs

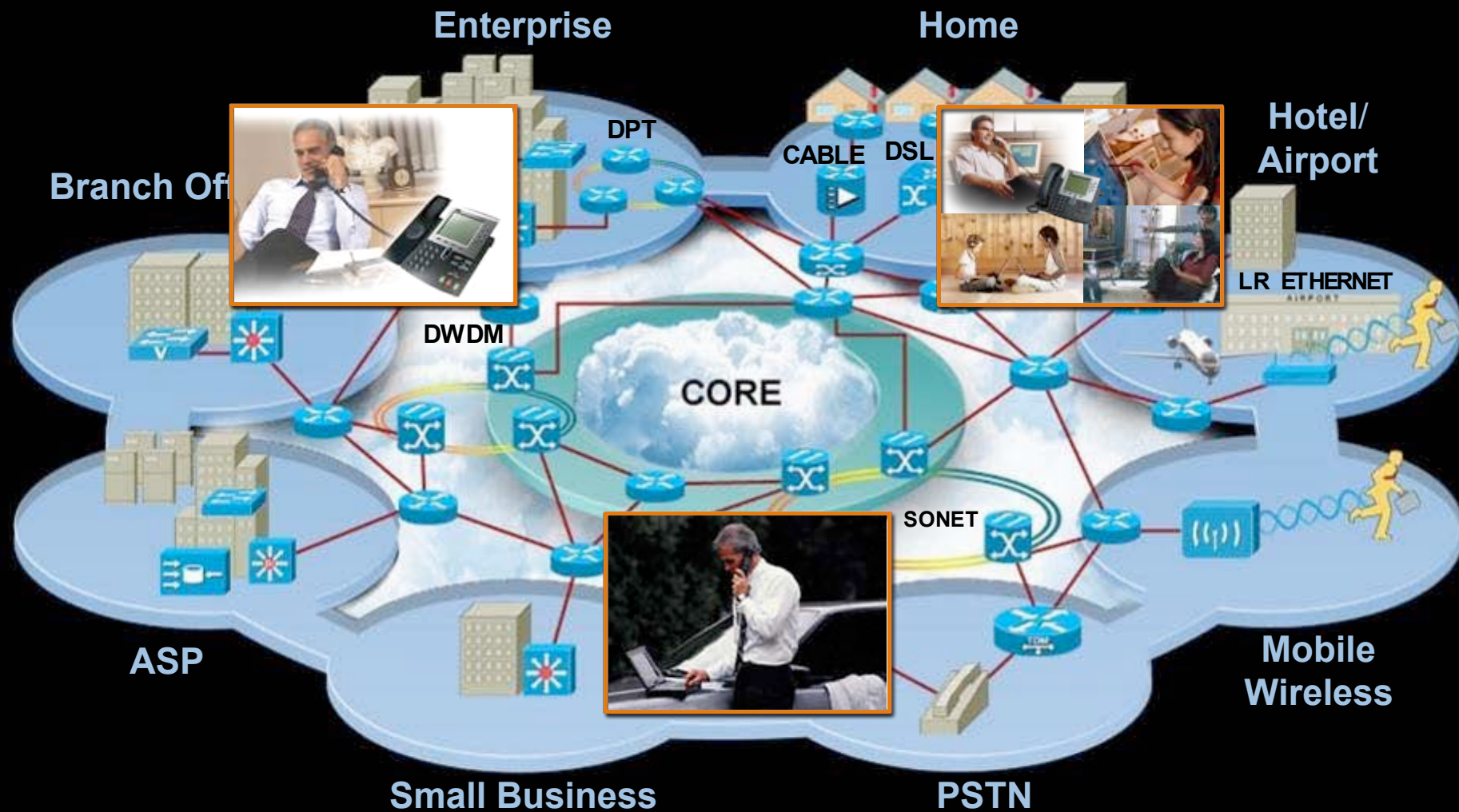
Cisco IP NGN Architecture

Achieving a Whole Greater Than the Sum of the Parts



Triple Play on the Move

Providing Means for Service Continuity, Customer Stickiness



Service Exchange Framework

Enabling Personalized Rich Media Services

Who?

- Who is the user?
 - Devices
 - Profile
 - Location
 - Presence

How?

- How can I dynamically control resources?
 - Interwork & provide rich media control
 - Monitor & charge on a per service / per user basis
 - Enable application awareness

Service Exchange Framework

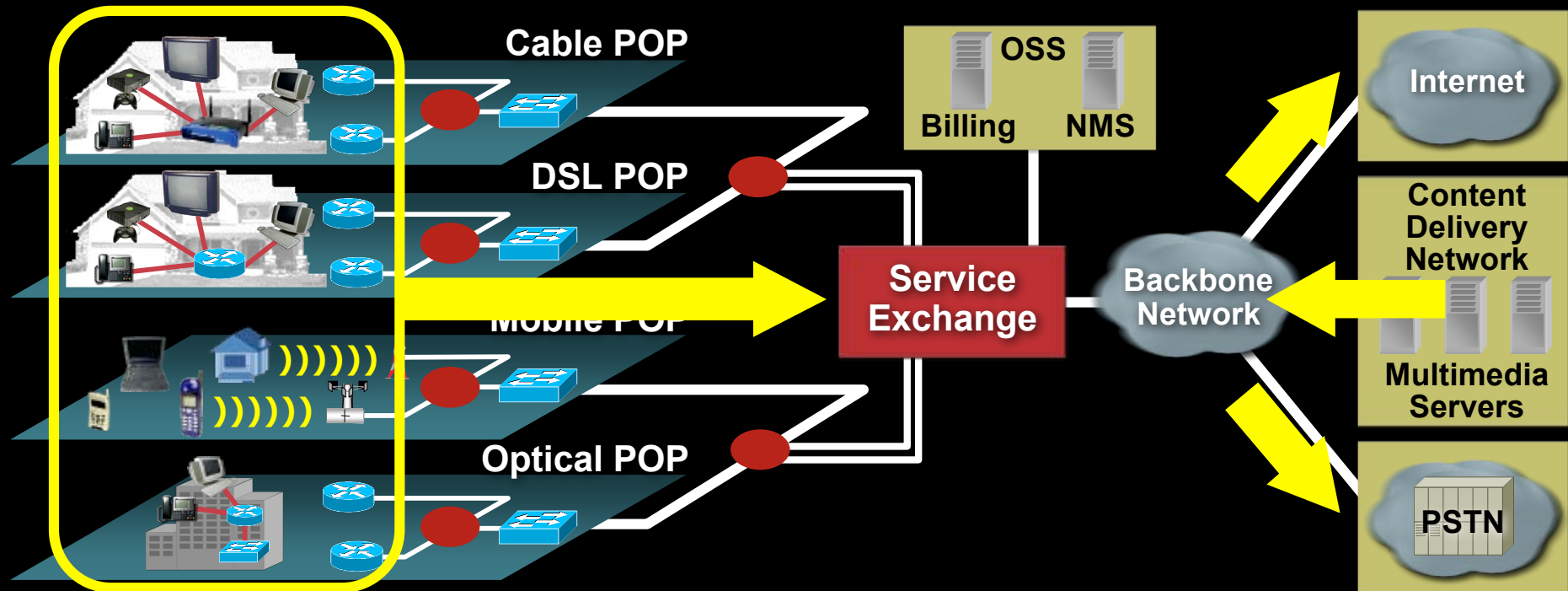
What?

- What can the user do?
 - Within what timeframe
 - To what extent
 - Under what rules

Where?

- Where can the user roam?
 - Track/recognize user devices across carriers
 - Maintain user sessions across multiple networks
 - Offer all services in all locations

CONTROL: Turning an Uncontrolled Network Into a Controlled Network



Barriers to Harnessing More Profit:

- Insufficient information yields an uncertain revenue model
- Network congestion and contention for scarce bandwidth degrades subscriber experience, leading to increased churn

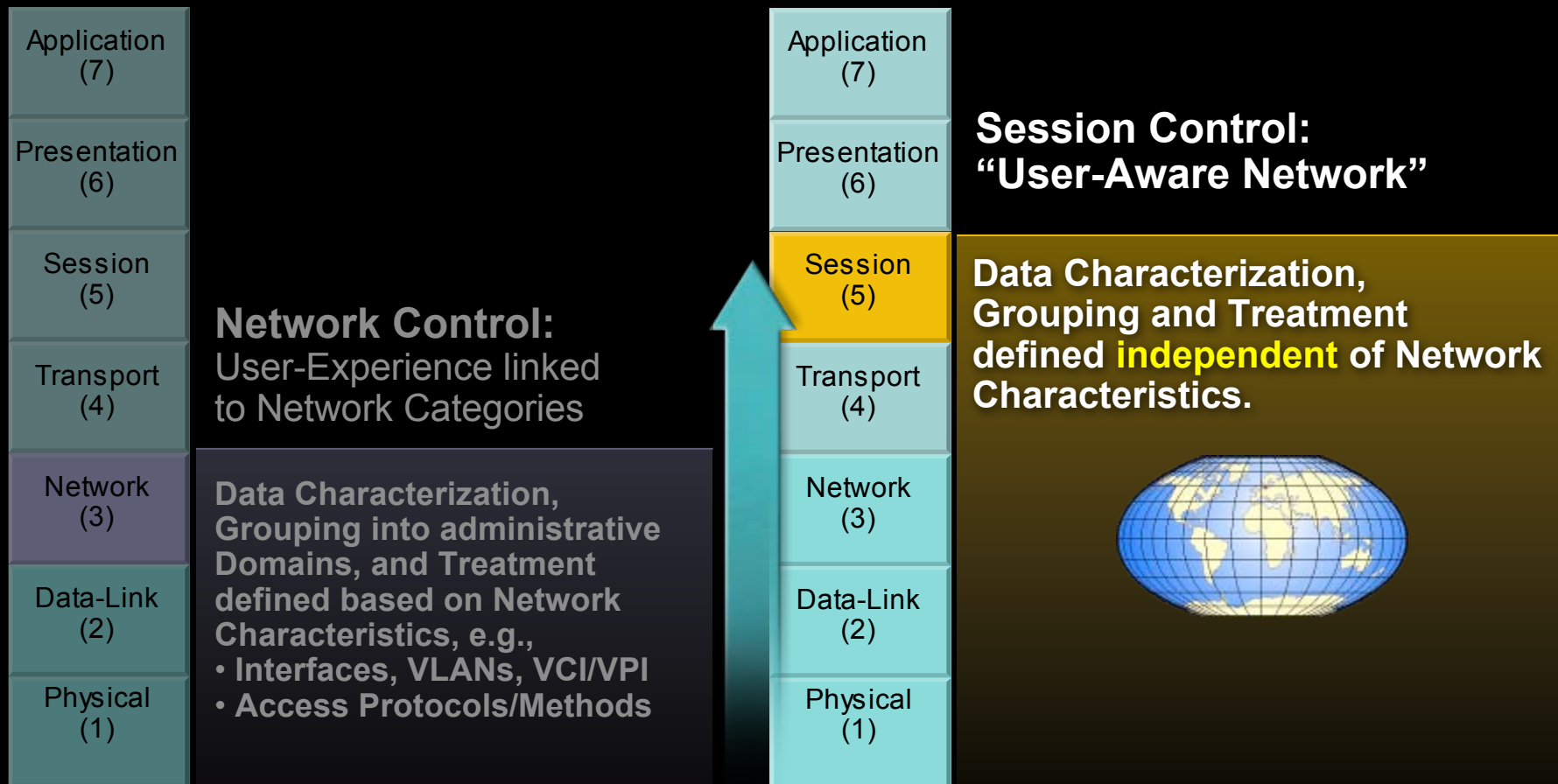
Service Exchange Enables:

- Application and subscriber-level control
- Usage reporting and billing
- Programmability for any current/future customer need
- Mobility management

User Identification and Control Enables Customization

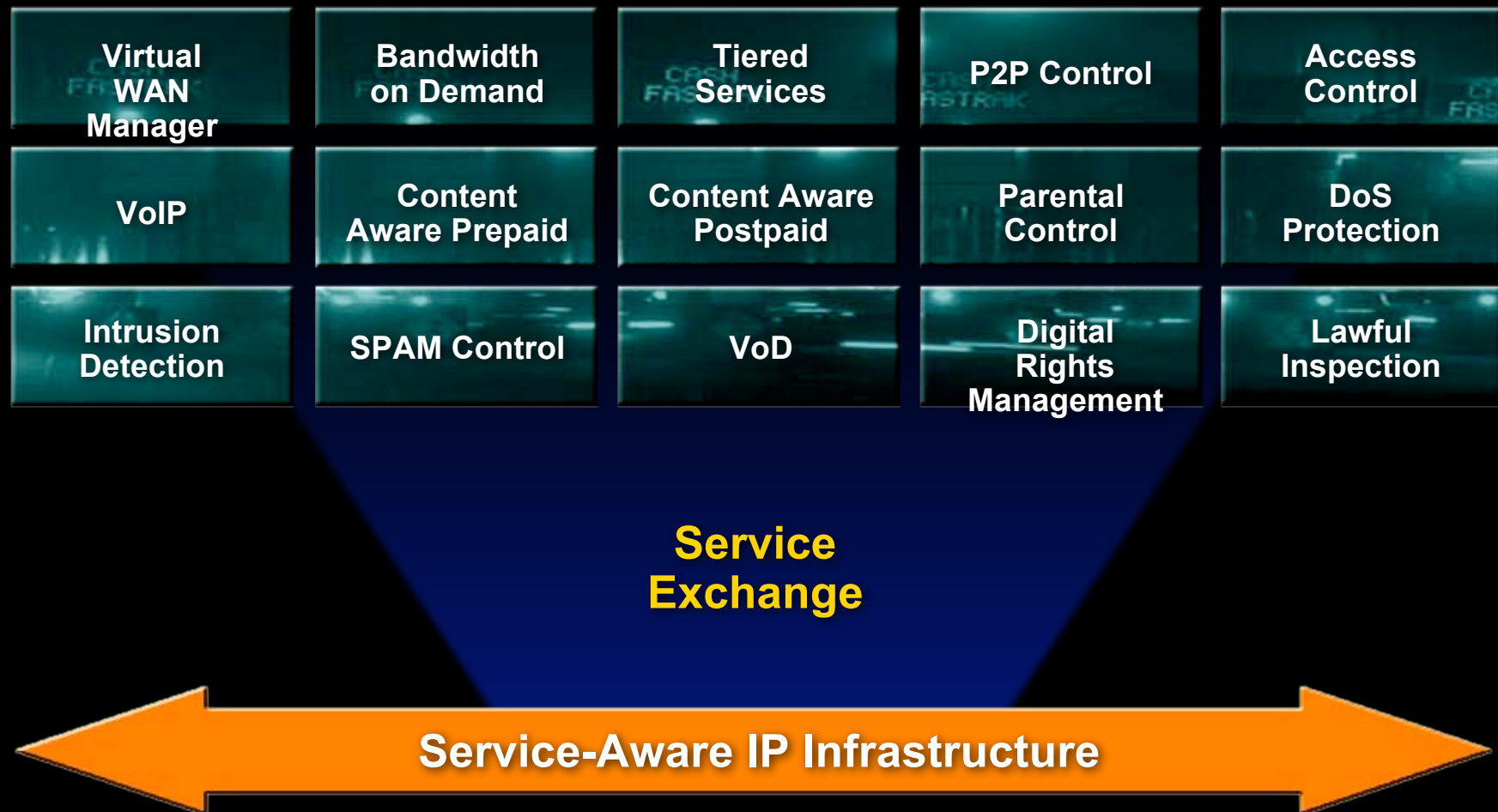
Identify Users and Serve Them According to Unique Profiles

Virtualization of the Network Layer for the User



SERVICES: One Size Does Not Fit All

Value Add Comes from Personalization



Agenda

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Service Exchange Possibilities

Plays to Top and Bottom Lines of an SP Business



Intelligent and Secure IP Networks

Create New Service Opportunities and Increase ARPU

Walled Garden Portal

Subscriber Self-Care
Portal and Accounting

Pre-Paid Services
(Volume, Time...)

Turbo Button

Protocol Restriction
(No IPsec)

TCP Session Limits

Per-User Firewall

Peer-to-Peer
Traffic Marking

Virus Filtering

Traffic Pattern
Analysis

User-Based Billing

Export Data Format
for Billing Services

Integrated to
Third-Party Billing

SLA Monitoring
and Reporting

Revenue-
Generating
Services

Cisco Service Exchange

Comprehensive Support for Non-SIP Apps

More Services

- Personalization and differentiation through self selection
- Content filtering through deep packet inspection
- More granular charging models with extensive pre/post-paid options

Greater Efficiencies

- Service prioritization via deep packet inspection
- Preserve video QoS via efficient management of oversubscription
- Greater scalability through content virtualization
- Network-based service control and charging multiple access technologies

Better Control

- Fair use enforcement through deep packet inspection
- Higher availability through enhanced security
- Transparent mobile data networking across multiple access networks

Cisco Service Exchange Framework

Case Studies

More
Services

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 web site blacklisting provided free of charge
- Comprehensive filtering and security for a small monthly subscription

Enhanced IP Communications Services & Features Superior to PSTN Telephony

More
Services

Standard Analog Features

Call waiting
3-way calling
Caller ID
Multi-line
Call forwarding

Today's Advanced Features

Call log
Click to dial
Web-based voicemail
Custom ring tones
Mobility
Area code selection

Features of the Future

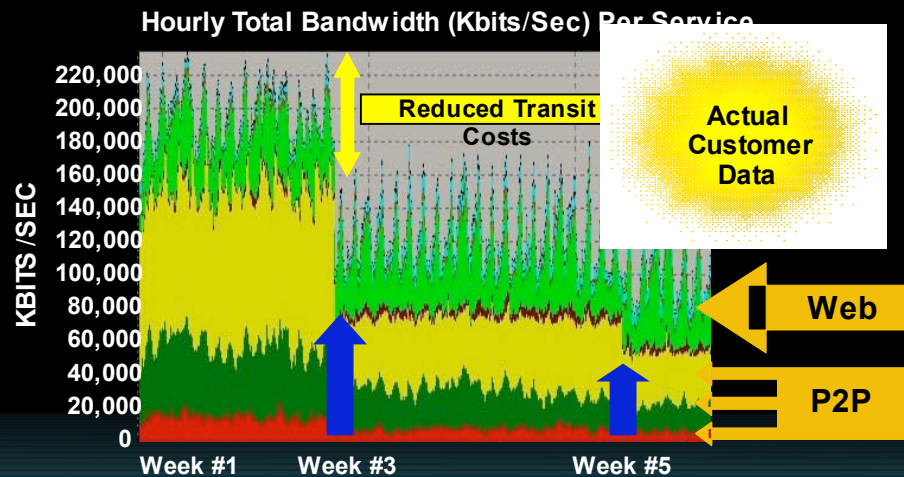
WiFi phones
Dual mode handsets
Vanity features
HiFi / High-def voice
Pictures and video
Video telephony

Cisco Service Exchange Framework

Case Studies

Greater
Efficiencies

Service Prioritization via Deep Packet Inspection



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

Efficient Management of Video Oversubscription



Video Call Admission Control

- Preserves quality of experience
- Provides network-based graceful busy signal when demand exceeds capacity
- In trials at major MSO, critical for IPTV

Cisco Service Exchange Framework

Case Studies

**Better
Control**

Implement Fair Use Policy

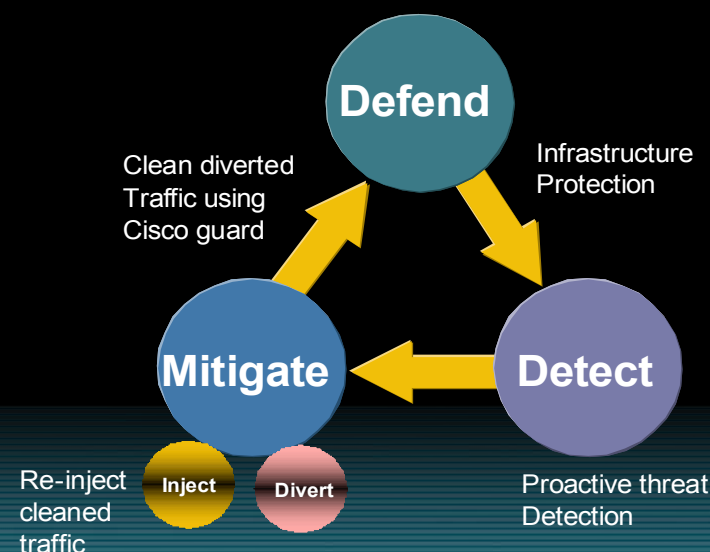


- Eliminates bandwidth bottlenecks
- Enhanced user experience

Usage	less than 2.8 GB	less than 4.2 GB	less than 5.6 GB	over 5.6 GB
e-mail + WWW	No Limit	No Limit	256 kbps	256 kbps
audio /video streaming	No Limit	128 kbps	65 kbps	48 kbps
P2P	48 kbps	28 kbps	28 kbps	16 kbps

User quota based on 7-day timeframe

Enhanced Security- DDoS Protection



Enhanced Security Services

- DDoS service provider infrastructure protection
- Peering edge DDoS protection
- Managed service models



Typical Tiered Service Model Pricing Example

Adding Value to Differentiate Services

**Better
Control**



MEMBER SERVICE

- One IP Address
- 2MB Down
- 512K Uplink



FAMILY SERVICE

- One IP Address
- 4MB Down
- 512K Uplink



BUSINESS SERVICE

- Three IP Addresses
- 6MB Down
- 1MB Uplink

NEW

- Email
- Basic Internet
- P2P Marked

- Email / Video
- Full Internet
- 100 TCP Sessions
- P2P Traffic Marking
- Child-safe Internet
- Pop-up Blocker

- Email / Video / Voice
- Wireless Internet
- No TCP Limits
- P2P Traffic
- Firewall
- IPSEC VPN Speed Up

- 500 Minutes paid

- Unlimited

- Unlimited

\$29.95

\$39.95

\$69.95

Enhanced VoBB Service Examples

Improving the Quality and Control of the User Experience

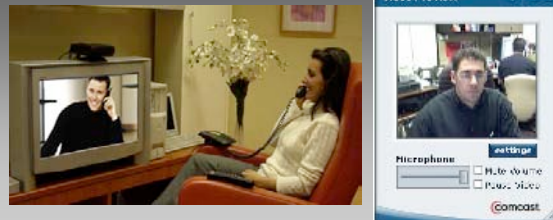
**Better
Control**

Managed Video Applications



Broadcast Television

Video Communications Services



Video Phone /
Video Conferencing

“Over the Top” Video



Video Streaming



Video on Demand
TV on Demand / nPVR



Gaming / Interactive TV



Video to Other Devices

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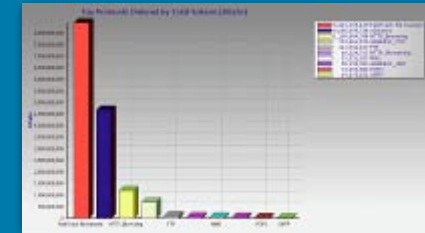
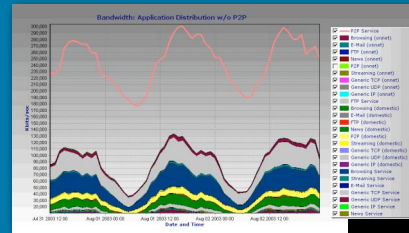
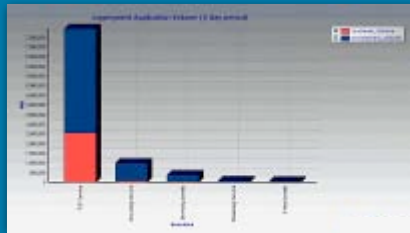


Service Usage Reports and Policy Enforcement **Network Analysis and Subscriber Intelligence**

Granular Usage Analysis:

- Analysis by subscriber
- Classification by application
- Layer 4–7 deep packet inspection ensures actionable data
- Detailed demographic analysis

➤ Operators can finally assess how subscribers are using the network



Combining Application and Transport Based Services

Flexible Combinations of Content, Volume, Bandwidth

High Degree of Customization Coupled with Granular Network Resource Control and Planning

Transport Traffic Control
(Pre-paid volumes; bandwidth management)

< 2.8GB

< 4.2GB

< 5.6GB

unlimited

Volume

Application / Content Recognition
(Deep packet inspection)

Email;
WWW

IPsec;
VPN; FTP

Peer2Peer

Content

256*

256*

128*

64*

48*

48*

28*

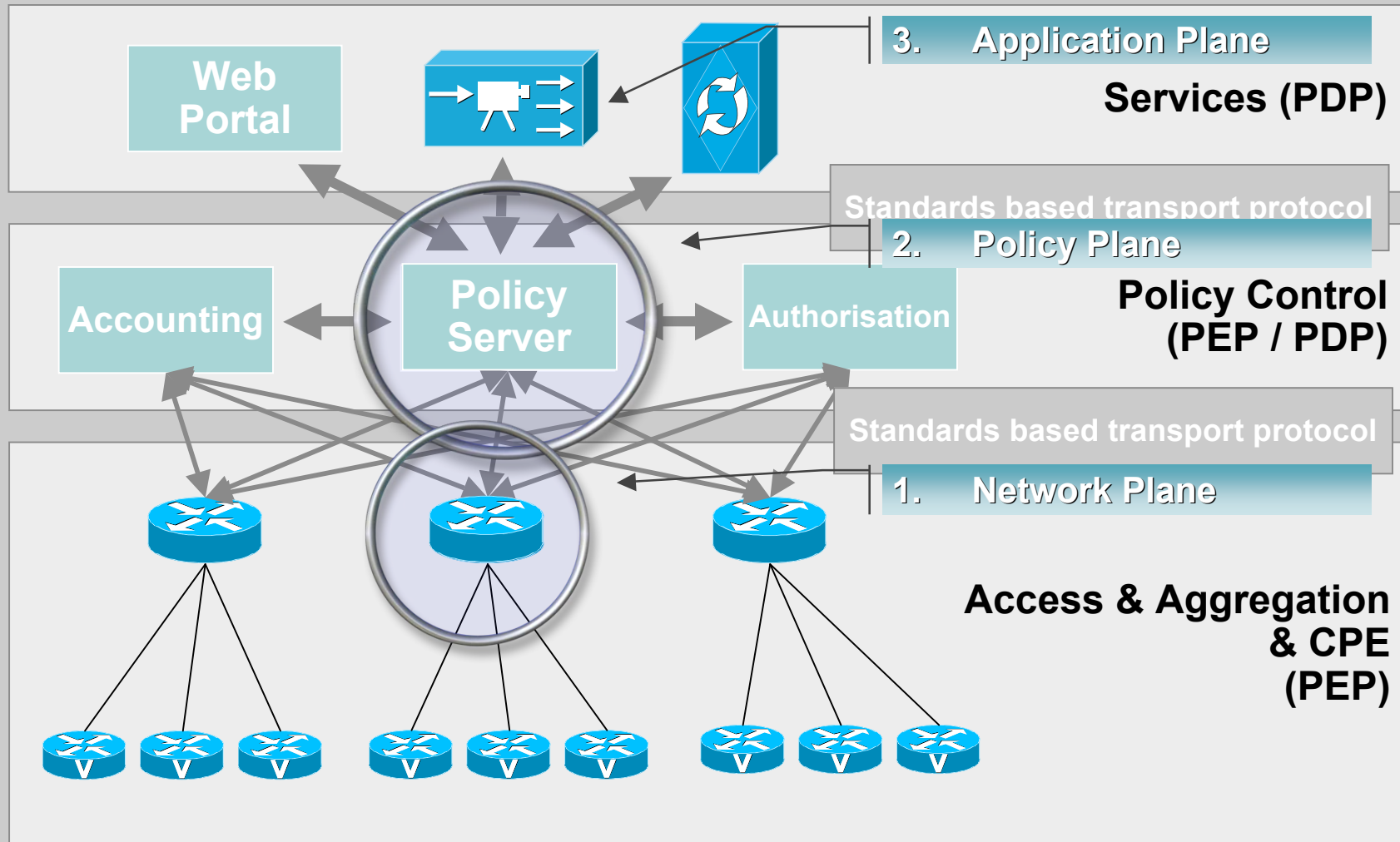
28*

16*

* Service Specific Access Bandwidth in kbps
(Example from a mobile-wireless service)

Policy Control Framework

Information Model



Customer self-provisioning

The screenshot displays the Tiscali website's service offerings. At the top, the 'ADSL 4 Mega Flat' plan is highlighted with a yellow glow. Below it, the 'ADSL Weekend' plan is visible. At the bottom, the 'ADSL 2 Mega Free' plan is also highlighted with a yellow glow. A large orange arrow points upwards from the 'ADSL 2 Mega Free' plan towards the 'ADSL 4 Mega Flat' plan, illustrating a dynamic upgrade process. Other visible plans include 'ADSL Web&Mail', 'Adsl 24 Mega Flat', and 'Adsl 12 Mega Flat'. The website also features promotional banners for 'tiscali VOCE' and 'tiscali sicurezza'.

ADSL 4 Mega Flat
Internet veloce senza limiti a 19,95 €/mese
2 mesi GRATIS
attivazione GRATIS se attivi entro il 16/02/06
SCOPRI ORA >>>

ADSL Weekend
Internet veloce senza limiti a 14,95 €/mese
2 mesi GRATIS! se attivi entro il 16/02/06
SCOPRI ORA >>>

ADSL 2 Mega Free
Internet veloce senza costi fissi a 1,8 €/ora
modem GRATIS! se attivi entro il 16/02/06
SCOPRI ORA >>>

ADSL Web&Mail
da 14,95 €/mese
2 mesi GRATIS
500MB inclusi
SCOPRI ORA >>>

Adsl 24 Mega Flat
39,95 €/mese
2 mesi GRATIS!
SCOPRI ORA >>>

Adsl 12 Mega Flat
29,95 €/mese
2 mesi GRATIS!
SCOPRI ORA >>>

tiscali VOCE
Hai un'Adsl con Tiscali e vuoi risparmiare su tutte le chiamate eliminando il canone Telecom?
VAI >>>

tiscali sicurezza
Proteggi il tuo Pc e la tua mail.

Area Clienti

- Customer subscribed to an entry-level profile.
- All customer's access lines are identically provisioned (i.e. DSL profile at max access speed).
- Service exchange enforces current customer speed and traffic profile.
- Customers can dynamically change profiles with no manual intervention.
- Profile change can be permanent (new tariff plan) or time-limited (promotional offers).

