



"Approaching the Zettabyte Era"

Web 2.0 Changes Virtually Everything



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Change the Nature of Work Itself

“Brace yourself.

In next decade... **computer power and Net connection speeds** will bring more profound changes to work than anything we've seen so far.”



“Whizzy new tools [are] going to change where we work, how we work, and even the nature of work itself. Already the changes are coming fast and furious.”

Major Customer Transformations

**Borderless
Enterprise**

Globalisation

Collaboration

Virtualization

**Real-Time
Information**

**Empowered
User**

What is Web 2.0, and how real is it?

- Web 2.0 (according to Wikipedia) is...
- A transition of Web sites from isolated information silos to sources of content and functionality, thus **becoming a computing platform** serving Web applications to end users.
- A **social phenomenon** referring to an approach to creating and distributing Web content itself, characterized by open communication, decentralization of authority, freedom to share and reuse, and "the market as a conversation."
- **More-organized and categorized content**, with a far more developed deep-linking Web architecture.
- A **shift in economic value** of the Web — up past a trillion dollars — surpassing that of the dot-com boom of the late 1990s.

Web 2.0: Driven by the “Millennial” Generation

Totally Connected

**Technology
blended with life**

Instant Gratification

**Mobile, multi-cultural,
multi-tasking**

**Demand
personalized
services**

**Largest work force
since the baby
boom**

Three areas in Major state of Transformation as the Value Chains are being disrupted

- Enterprises – The end of Software, Why Buy the Cow?
- Video – Entertainment, TV, advertising markets
- Collaboration and the Mobile market – high-speed, mobile access to information, “always-on” concept

This results in massive opportunities or major threats to Service Providers – not limited to carriers, also content providers in each of these areas.

What is the Cisco Visual Networking Index (VNI)?

Visual Networking is the combination of video and social networking/collaboration (Web 2.0) technologies.



The Cisco Visual Networking Index is an initiative to track and forecast the suite of visual networking applications.

Cisco Visual Networking Index (VNI) – Forecast

Measuring IP Traffic Growth from 2007 to 2012

- In 2007, visual networking ushered in the exabyte era...
- In 2008, visual networking is ringing in the zettabyte era...



Key Cisco VNI Forecast Insights



1. Video is the key driver of IP traffic growth
2. High-definition and on-demand content are driving video traffic today
3. Collaboration and mobility will drive video traffic tomorrow
4. Video traffic will cause shifts/changes in network topologies
5. The sheer volume of video content may cause traffic “surprises”

The Zettabyte Scale

1 Petabyte
1,000 Terabytes or
250,000 DVDs

1 Exabyte
1,000 Petabytes or
250 million DVDs

1 Zettabyte
1,000 Exabytes or
250 billion DVDs

1 Yottabyte
1,000 Zettabytes or
250 trillion DVDs

200 Terabytes

A digital library of all books ever written in any language

100 Petabytes

The amount of data produced in a single minute by the new particle collider at CERN

5 Exabytes

A transcript of all words ever spoken

100 Exabytes

A video recording of all the meetings that took place last year across the world

150 Exabytes

The amount of data that has traversed the Internet since its creation

175 Exabytes

The amount of data that will cross the Internet in 2010 alone

66 Zettabytes

The amount of visual information conveyed from the eyes to the brain of the entire human race in a single year

20 Yottabytes

A holographic snapshot of the earth's surface

Key Cisco VNI Forecast Predictions

Total IP Traffic 44 exabytes per month in 2012, 46% CAGR

- Annual global IP Traffic will reach half a zettabyte in four years

Total Internet 27 exabytes per month in 2012, 41% CAGR

- In 2012, the Internet will be 75 times larger than it was in 2002
- The sum of video will be close to 90% of consumer Internet in 2012

Internet video 10 exabytes per month in 2012, 65% CAGR

- In 2010 Internet video will surpass P2P in volume.
- Online video will account for nearly 50% all consumer Internet by 2012.
- In 2012, Internet video will be nearly 400X the U.S. backbone in 2000.

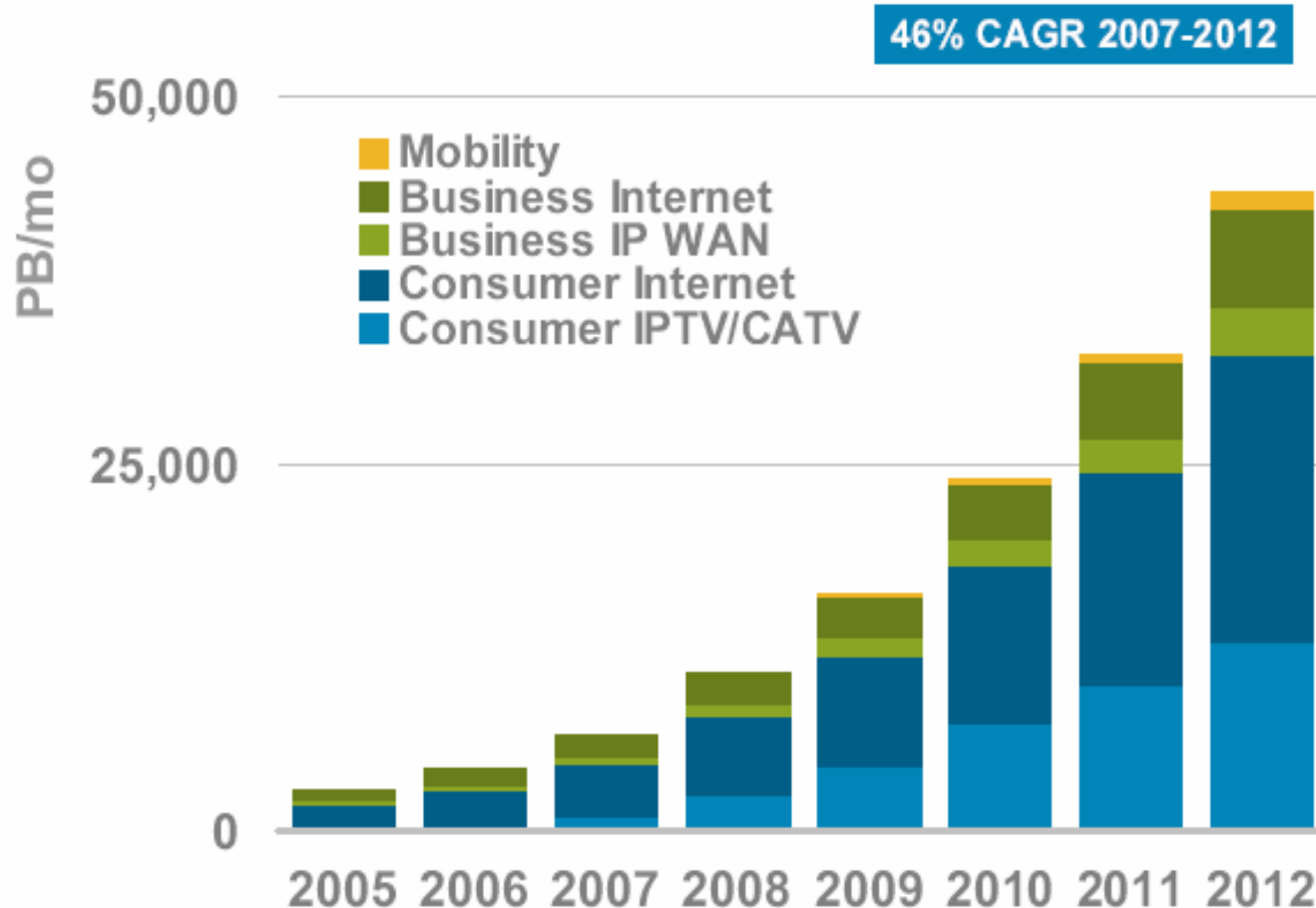
Mobile 1.2 exabytes per month in 2012, 116% CAGR

- Mobile data traffic will more than double every year through 2012.
- Mobile data traffic in 2012 will be twenty times what it is today.

Global IP Traffic Growth

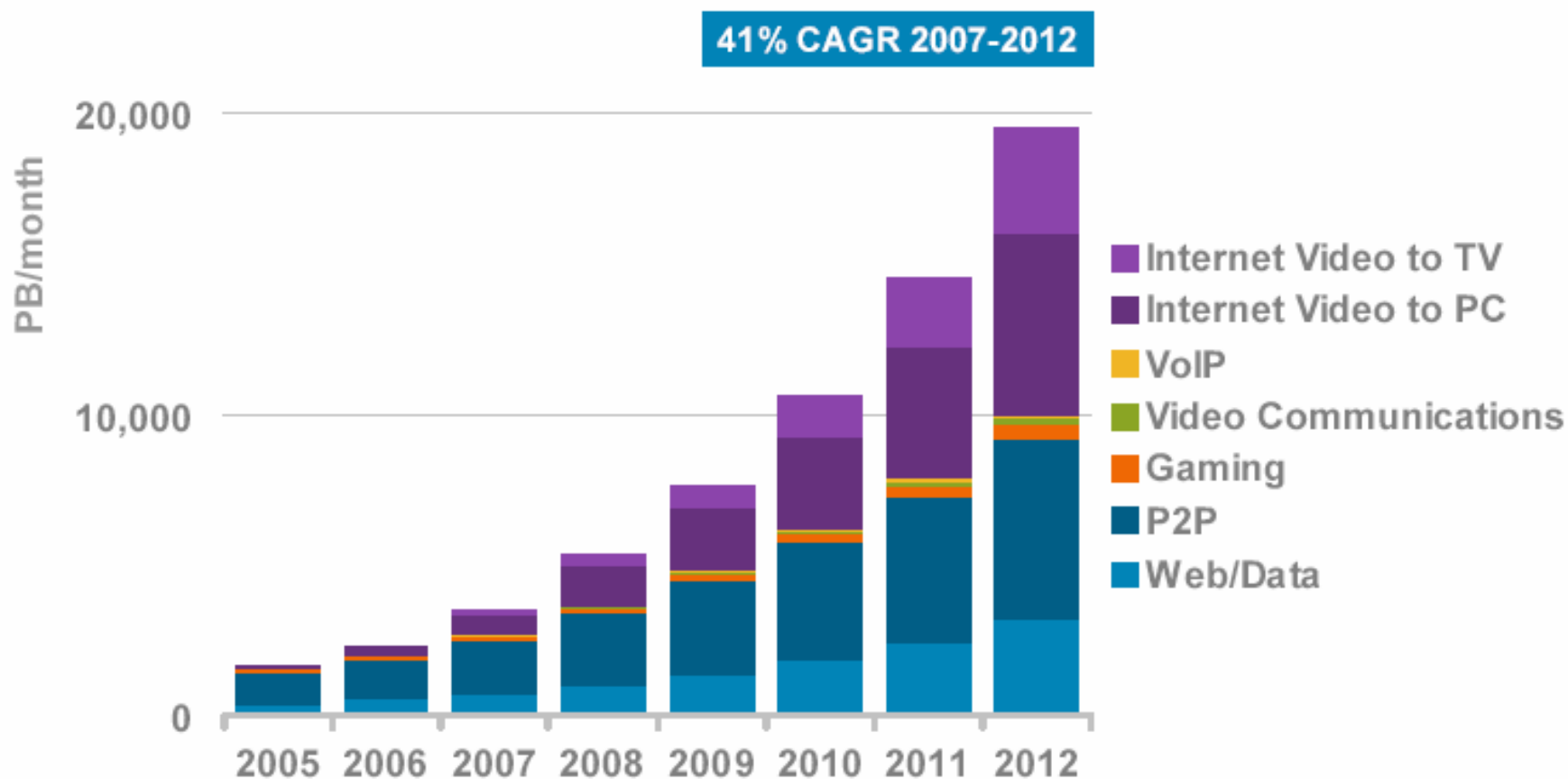
IP traffic will increase 6X from 2007 to 2012

In 2012, half a zettabyte will cross the global network



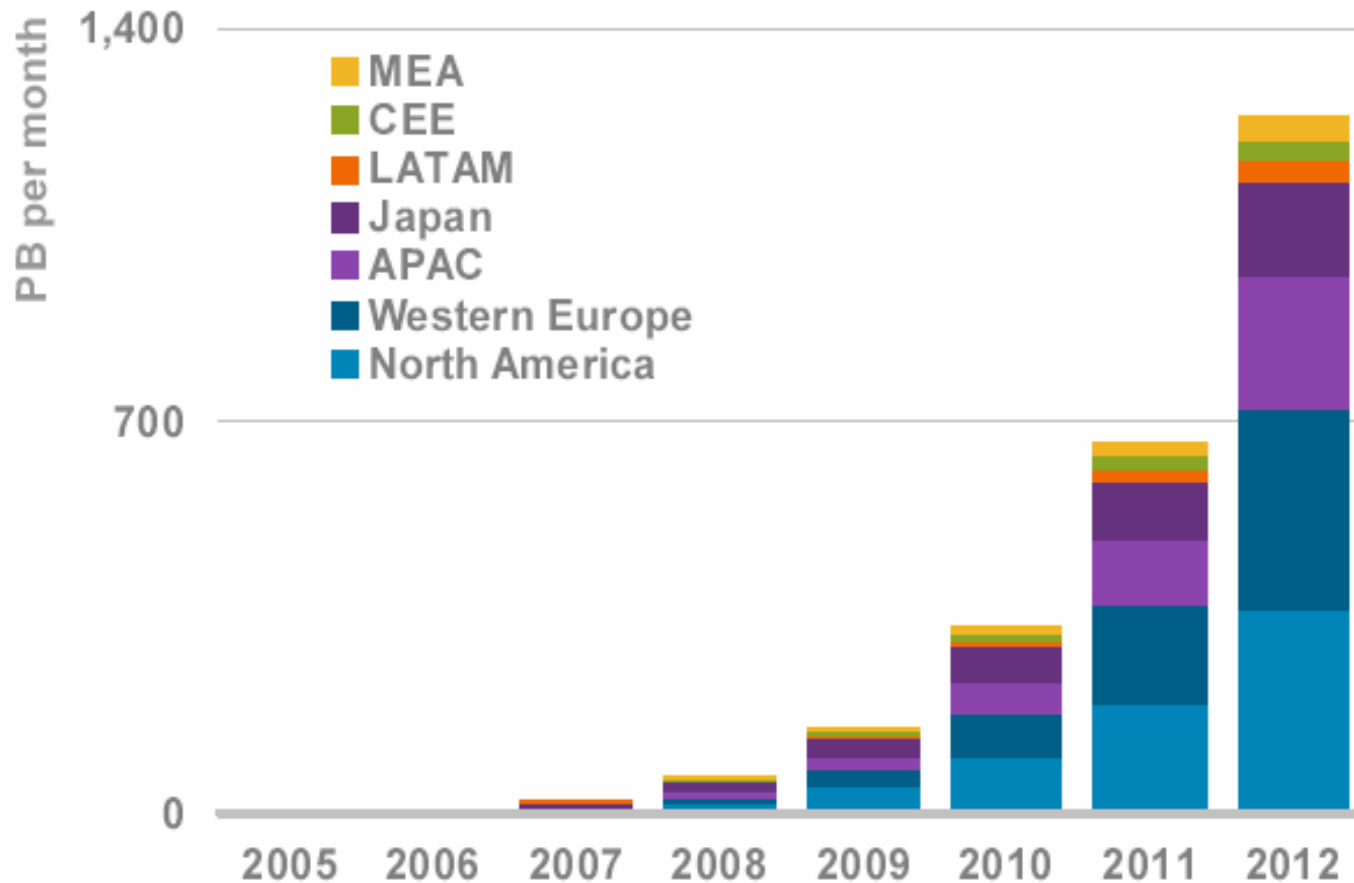
Global Consumer Internet Traffic Mix

Video will be nearly 50% of traffic by 2012



Global Mobile Data Traffic

Mobile Data to Grow at 116% CAGR 2007-2012



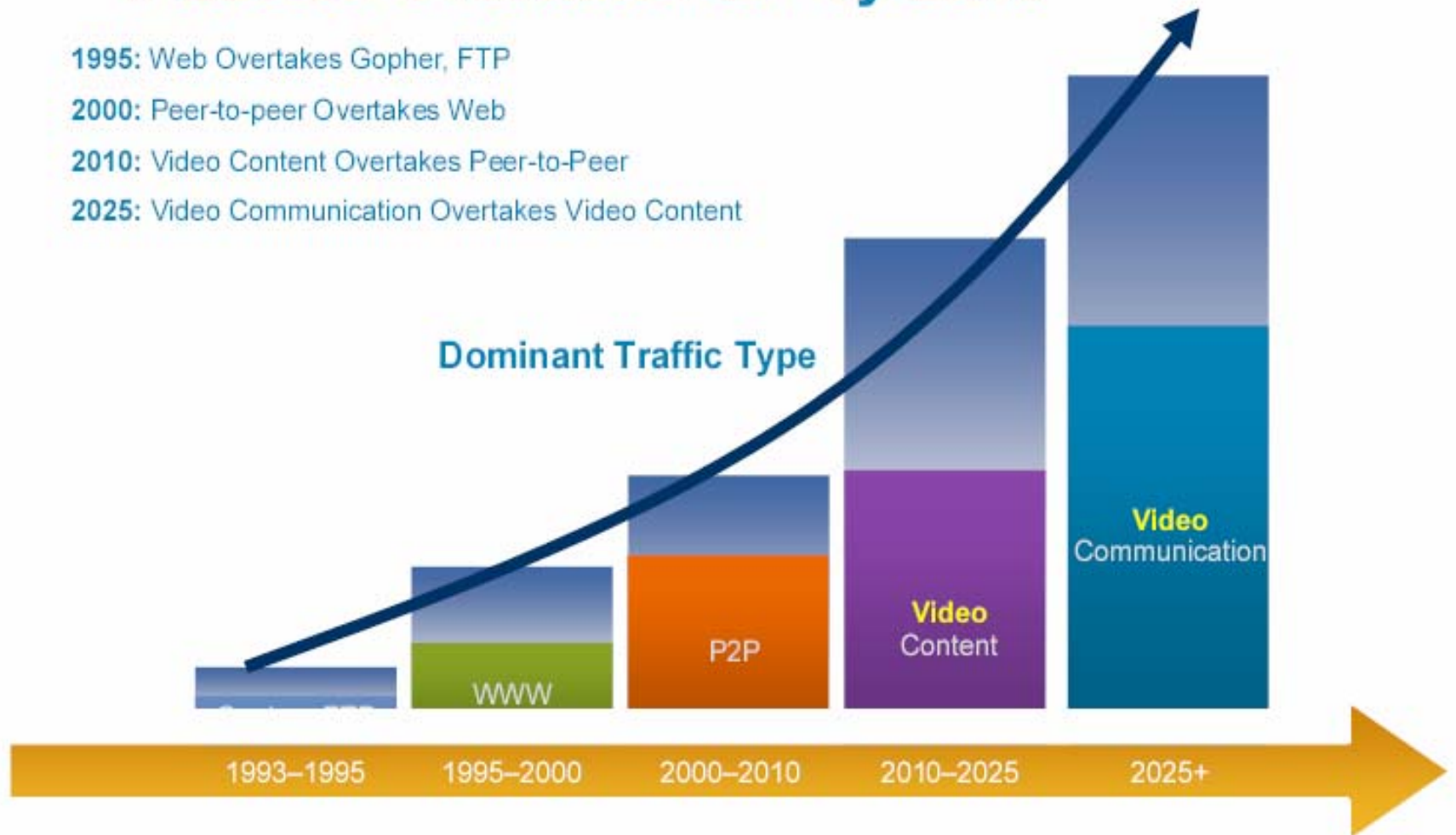
Video to Overtake P2P by 2010

1995: Web Overtakes Gopher, FTP

2000: Peer-to-peer Overtakes Web

2010: Video Content Overtakes Peer-to-Peer

2025: Video Communication Overtakes Video Content



The Best of Both Worlds

Application

Delivery Model

Ubiquity, Speed, Flexibility
“Web 2.0” style innovation platform

Our Strategy: To bring together the pace of web-based innovations and our proven strength in enterprise networking

The “ilities”---security, reliability, scalability, availability, etc.
Intelligent services built into the network

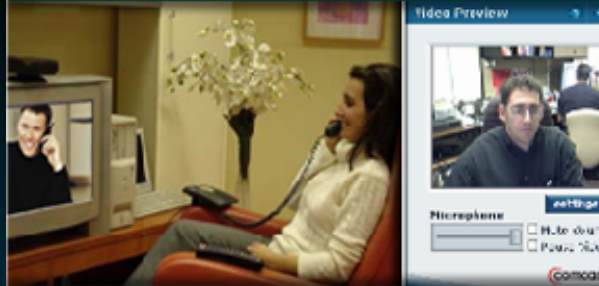
Employee

Enterprise Network

Video is Key for Experience Delivery



High Definition



Video Phone /
Video Conferencing



Video Streaming



Video-TV On Demand /
nDVR/ Mobile TV

Managed
Video
Applications



Gaming / Interactive TV

Video
Communications
Services




Video to Other Devices

“Over the Top”
Video

New Business / Communication Models... Networked Web 2.0

100,000+ Virtual Meetings

A large audience is seated in a conference room, facing a stage. The stage features multiple large screens displaying virtual meeting content. A speaker is visible on the stage, and the audience is engaged in the presentation. The room is dimly lit, with blue ambient lighting.

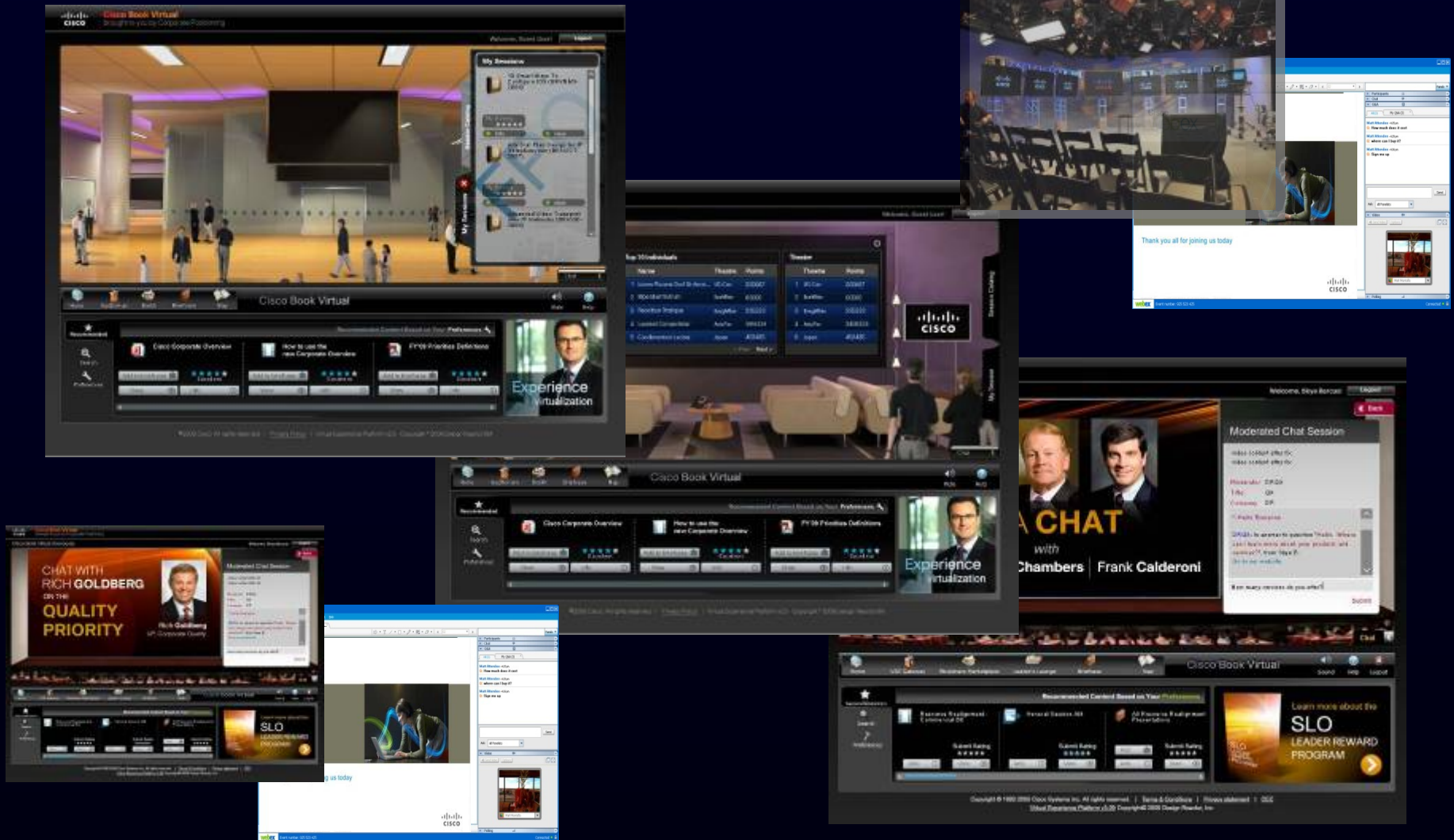
“At First, Really Cool... Now Just Part of Normal Business”

New Business / Communication Models...

Web 2.0

- Total meetings to date have exceeded **294,338**.
- **464** Cisco TelePresence deployed globally.
- **388,203 hours** of meetings have been conducted over TelePresence.
- **27,506 meetings** with customers to discuss Cisco Technology virtually over TelePresence.
- **54,831 meetings** included participants who avoided travel by attending meetings over TelePresence, which is **\$219 million** dollars average in travel avoidance.
- **\$82 million dollars** in productivity saving
- As a result, Cisco saved **118,435 metric tons of emission**

3,000+ Cisco Leaders: Virtual Strategic Leadership Offsite



TelePresence Momentum...

Flagship of Collaboration / New Business Models



Services



Supply Chain



Transforming
Supply Chain



Managed Services
3,000 installed by FY10

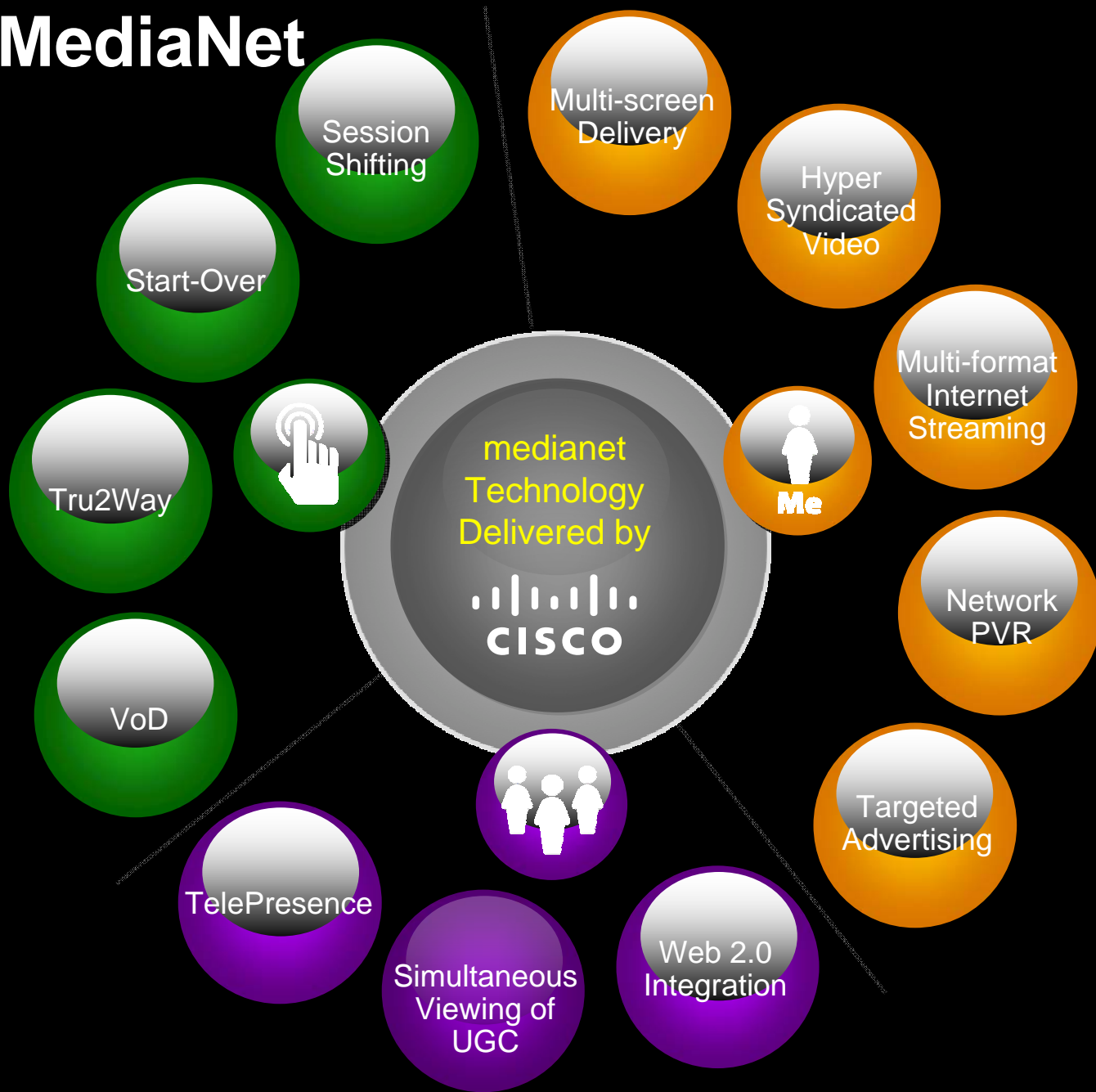


VoiceCon...
Carbon Reduction



Connecting
Families

MediaNet



Transforming Video Experience

Differentiate End User Experience

-  Personalization
-  Social
-  Interactive



Bringing Web2.0 Experiences to TV

Transforming Video Experiences



Consumer Experiences
Social Networking and Interactive Services



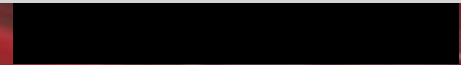
User Interface Personalization

Select or Create Your Own





Changing the World of Advertising
“Moving from Interruption based to
Interaction based advertising”



Digital Advertising Exchange (DAX)

Advertisers & Agencies

Media Owners

Application

Ad Submission

Reporting

Campaign Creation

Scheduling

Traditional Push

Hosted Network Services

Profile and Preferences

Dynamic Ad Provisioning and Insertion

Digital Asset Management

Payments and Reporting

Analytics Engine

Contact Center Exchange

Intelligent Push

IP Infrastructure

Internet

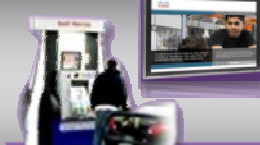
Mobile

SP TV & Telepresence

Corporate Intranet

Digital Signage Networks

End User Devices



End Point Pull

DAX Value Proposition: *More Effective Advertising*



Advertisers

- Better targeting
- Higher interactivity
- Proof of play
- Improved analytics
- Greater agility

Media Buyers

- Lower transactional costs
- Fast insertion & changes
- Ease of cross-media buy
- Access to inventory

Media Owners

- Increased access to advertisers
- Lower operation cost
- Increased utilization
- Higher revenue

Consumers

- More relevant offers
- More control over advertising
- More interactive, entertaining & useful

The Future of the Workforce

Cisco to Cisco

The screenshot shows the Cisco Connect interface. On the left, there's a 'Welcome' section for Jim Grubb, a 'Contacts' list with teams like 'Demo Team' and 'Media Team', and a 'Calendar' with events like 'John's Demo' and 'Directory 3.0'. The main area displays a 'Messages' table with columns for Subject, Name, Received, and Duration. Below the messages are 'Workspaces' for 'Vision State', 'Summit Experience', and 'Directory 3.0', and an 'RSS Feeds' section.

| Subject | Name | Received | Dur. |
|----------------------|------------------|----------|------|
| Demo next month | Sean Curtis | 8:34am | 0:16 |
| COOE Follow-up | Mike Mitchell | 7:10am | 1:18 |
| Confirm travel an... | Corporate Travel | 12:23am | 1:39 |
| No Message | (408) 340-6203 | 03/04 | 2:34 |
| Dinner this weekend | Mike Scott | 03/04 | 0:18 |
| Content Review | Walt Wong | 03/04 | 1:21 |
| Boat Repair | (510) 707-4854 | 03/04 | 1:35 |

Cisco to Partner

The screenshot shows the webex connect interface for the 'Data Center Channels Team'. It includes a navigation bar with tabs like 'Discussions', 'Files', 'Home', 'Dashboard', 'Team', 'Products', 'Marketing', 'Calendar', 'Services', and 'Cisco Capital'. The main content area features a 'Top of Mind' section with a welcome message from Michael Baker, a 'Polling Widget' with an active poll, and a 'Featured Content' section with a video player and a 'Data Center Networks Blog' section.

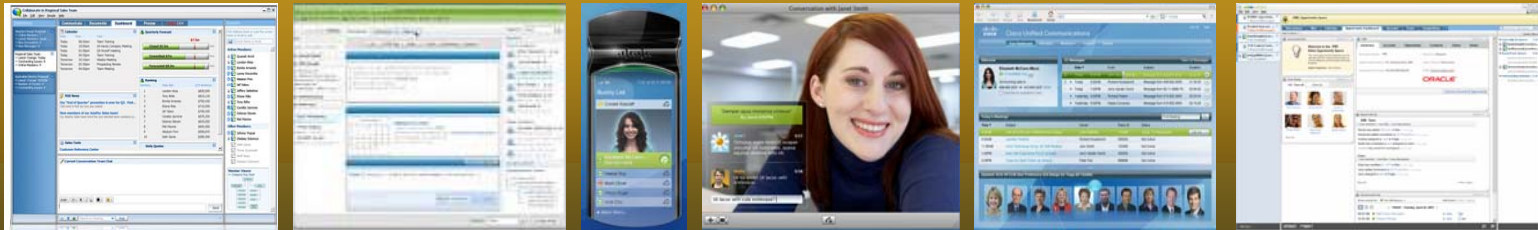
DC Market Landscape
 Michael Baker, Mgr. Systems Eng
 PDF - 2 MB

How often do you lose a POC to Riverbed?

| Option | Count | Percentage |
|--------|-------|------------|
| 25% | 2 | 29% |
| 50% | 4 | 57% |
| 75% | 1 | 14% |
| 100% | 0 | 0% |

Collaboration 2.0 Architecture

End-User Clients



Collaborative Applications

Cisco Apps

Partner Apps

Customer Apps

Video

File Mgmt

Call Control

Policy Mgmt

Policy Mgmt

Presence & Location

Routing & Queuing

Directory & Identity

Voice

Presence & Location

IM & Chat

Custom Data

Data Sharing

On-Premise

On-Demand

Global Delivery Network

A Rich Portfolio of Applications from Cisco to Offer Unified Services



TelePresence



Unified Communications



WebEx Collaboration Services



Digital Media Systems and Signage



Physical Security and Surveillance Systems



Content Distribution Systems



Video Entertainment Systems



Cisco Unified Service Delivery

A single, horizontal platform to leverage across the entire service portfolio

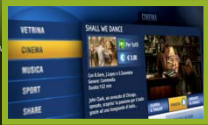
“Personality” based on service category and/or business model



New Service Delivery Models

Demand A Secure Virtualized Approach

Entertainment



Consumer Video



Video dominates, rich multimedia services

Secure Delivery

Information



Cloud Computing



Fundamental shift for IT services and media

High Quality Experience

Application Awareness

Communication



Hosted Unified Comms



Multi-tenancy, agility for new services

Media Awareness

Scale

Flexible Partitioning

Value Proposition of an Architectural approach to enable Web 2.0 in the Enterprise



- Deliver an architectural approach to connecting network services to applications to **deliver business solutions**
- Leverage proven Cisco system and solution delivery processes to **reduce risk** and **differentiate** enterprise offering
- **Enable advanced services** and/or consulting practices targeting vertical markets
- Localize systems and solutions with proven partners and channels
- Enables enterprises to **optimize network aware applications** and services globally across their businesses



Video **Work** **Play** **Es...**
Live **Everything** **Learn**

