Emerging Technologies and Innovation @ Cisco

Cisco Networkers Solutions Forum 2007

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Agenda

• Increasing Role of Technology & Communications
• Cisco’s Internal Innovation Strategy
• Emerging Technologies:
  - Interoperability Systems
  - Physical Security
  - Digital Media Management
  - TelePresence
• Summary
Everything Will Be Connected

14 billion devices will be connected to the Internet by 2010

Source: Forrester Research, February 2005
The World is Changing Fast
Opportunities Abound

Content/Applications

Experience

Devices
Innovation Strategy: Network as a Platform

Extend the Value of the Network

VALUE

Standard + Extensible = Value-Creation

New Systems:
- Cisco TelePresence
- IPICS
- Physical Security
- Digital Media

NETWORK PLATFORM

MultiProtocol Routing
Data-Voice Video
Content Aware
Emerging Technologies
Global IP Traffic Growth by Segment

Traffic grows to nearly 9 Exabytes per Month by 2009

For Perspective:
1 Exabyte = 5 X all the world’s printed matter
5 Exabytes: All words ever spoken

Source: Cisco Estimates, Ovum, Bernstein, Public Company Data
Network price performance: doubling every 12 months*

*Ray Kurzweil, 2005
Where Does the IT Money Go?

Growth in IT Spending in Worldwide, 2006–2009

- 2006 WW IT Spending: 1,148 B$
Agenda

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Cisco Strategy for Growth

1. Expand Core Markets
2. Grow AT Markets
3. Create New Opportunities
An Extensive Portfolio

The 15% You See

The 85% You Don’t See: The Intelligent Information Network
EMTG: A New Growth Model
New Products for New Markets—Disruptive Innovation

New

Partner, Acquire

Existing

Develop, Acquire

Existing Technologies

Acquire, Partner

Internal Venture, Financial Investment

EMTG Focus

Market

New

Existing

Source: Prof. Ed Roberts, MIT Sloan School
Cisco: Innovation for Growth

To achieve 15% CAGR

ETs = $6.5B by FY12

Projected
Internal Venture Math

1,000 Prospects

20 ET Investments

15 Successful ET’s

$6.5B
Cycle of Innovation

1. Invent
   - Invent Differentiated Offering

2. Deploy
   - Deploy Differentiation at Scale
   - Fund Next Innovation

3. Manage
   - Manage Mission-critical Processes at Scale
   - Extract Resources to Reinvest for Core

4. Offload / Repurpose
   - Advanced Technology
   - Foundation Technology
   - Reinvent Technology

Emerging Technology
Innovation Across all Customer Segments

INTELLIGENT INFORMATION NETWORK

ENTERPRISE
Service Oriented Network Architecture

COMMERCIAL
Smart Business Communications Architecture

SERVICE PROVIDER
IP NGN

CONSUMER
The Connected Home

EMERGING TECHNOLOGIES
ADVANCED TECHNOLOGIES
FOUNDATION TECHNOLOGIES
The EMTG Framework for Innovation
Find and Filter—Then Initiate → Accelerate → Eliminate/Graduate

1. Invent
   - Academia, Idea shops, Tech Center
   - VC Focus

2. Deploy
   - Apply disruption to others
   - Prevent disruption to Cisco
   - Resurrect failed attempts
   - Exploit macro trends

Graduate
- Feedback from partners, customers
- ?+1 $B in 5–7 years?
- Leverage existing Cisco business model?
- Significant pull-through opportunity?
- "Pay as you grow" profile?
- Determine outcome: Test, Initiate, Pass, Seed, Kill?

Accelerate
- Crossed the Chasm? Market Share vs nearest competitor? $100M–$300M?
- Barriers to entry in place?
- Insufficient market? Product not viable? Cisco can't sell? Losing share?
The Emerging Technologies

Stage 1 Emerging Technologies (unannounced)

Stage 2 Emerging Technologies (announced)
- Communication Interoperability Systems (IPICS)
- Physical Security
- Digital Media Management (DM)
- TelePresence
- Server Networking and Virtualization
- Consumer Electronics
- Intelligent Services Management

Advanced Technologies (announced)
- Application Networking Services
- Home Networking
- HSBS (Linksys One)
- Digital Video (SA)
- IPC
- Optical
- Security
- Storage
- Wireless

As much as I would love to do it, I cannot show you that.
Agenda

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Systems Interoperability—Cisco IPICS
Cisco IPICS
System for Communications Interoperability

Contextually Integrates Multiple Modalities of Communication for Interoperability and Collaboration

Comprehensive Voice Interoperability

Radio Interoperability

PC, VoIP, PSTN, Cell, NXTL

GIS and Data, Video, Sensor

Automation, Inference Engine, Workflow Integration

Policy-Based Communications Interoperability

New Innovation @ Work
25 Patents Filed
Same IPICS System
Enterprise Safety and Security - Business Operations - Interoperability

Same Horizontal Platform Across Verticals

Radio to IP

Phase 1

IPICS System
LMR Gateway

IT$ Ops$

Defense

Federal

Public Safety/ State and Local/ Education

Transportation

Fleet and TacOps (Tactical Mobile Ops)

Financial

Oil and Gas /Utilities

Enterprise, Commercial, Retail, Healthcare, etc.
Physical Security—Video Surveillance
Cisco Services Platform
Network Video Recorder

Cisco Innovation Delivers Access to Video at Any Time from Any Place, Enabling Real Time Incident Response, Investigation and Resolution

Service Oriented Network Architecture (SONA)

Cisco IP Gateway
Video Encoder/Decoder

Digital Video Recorder
Cisco Services Platform

Cisco Client Software
Viewing and Configuration
Integration with Cisco Products

• Deployed on SONA foundation to increase business impact

• Network integration is a critical differentiator, providing
  Interconnectivity
  Security
  Availability
  Storage
  Remote management, monitoring and viewing

• Video surveillance drives foundation sales
Digital Media Management—
Digital Media System
What Is the Digital Media Opportunity?

YouTube for the Enterprise

Future
Today
Yesterday

New Opportunities
Mobile Media Mgmt.
Digital Signage
Live Webcasting
Video on Demand

$2B - $3B Market by 2010

Digital Media System
Cisco Digital Media System

Media Creation
- Digital Media Encoder 1000
- Digital Media Encoder 2000

Media Management
- Program Manager
- Category Manager
- Interface Manager
- Lineup Manager
- Account Manager
- Deployment Manager

Media Delivery
- Cisco Video Portal

Solution that Spans Across the Digital Media Value Chain
Cisco TelePresence
Why call it TelePresence?

**Telegraph**

**Telephone**

Better Customer Experience
Cisco TelePresence
Complete Solutions

- Endpoints: Group and executive
- High Definition Video Switch: Multi-point
- Software: Scheduling, Automated call launch, Video concierge
- Network: Business to Business
- Services: Planning and design, Operate services
Cisco TelePresence Meeting Solution
Endpoints Product Breadth

Cisco TelePresence System 3000
- 12 seats at the virtual table
- Purpose-built room
- Ships FY Q2

Cisco TelePresence System 1000
- 4 seats at the virtual table
- General purpose room
- Ships FY Q2
Roadmap
Multipoint Solutions

• **Cisco TelePresence multipoint**

• Optimized for Cisco TelePresence
  
  Full-size continuous presence by screen
  
  Switching by table segment
  
  Interoperable between endpoints CTS 3000, 2000, 1000

• Call launch, “one button to push”

• Second half FY’07
Conclusion
Cisco—Innovation

- $3.8 billion R&D investment annually
- 17,000 engineers working in more than 10 major labs worldwide
- #1 in most markets in which we compete
- Over 100 companies acquired
- More than 2,300 patents issued to Cisco inventors in last 10 years

EMTG = 6x number of patents than rest of Cisco R&D

Major Innovations

- Multi-Protocol Routing and Switching
- Voice over IP
- WiFi wireless
- Largest contributor to IETF, IEEE
Conclusions

• Partnership, acquisition, and internal innovation
• Internal innovation unleashes employee creativity
• Transparency promotes participation
• Build on inherent advantages of scale
• Leverage architectural strengths
Thank You