Case Study: Cisco in China

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Agenda

- Introduction to Cisco
- China Research & Development Center
- Investments
- Trademark (counterfeiting)
- Standards (AVC, wifi)
Introduction to Cisco

Subtitle
Innovation Evolution

- **Started at Stanford**
- **First acquisition (Crescendo)**
- **Entered service provider market with high-end router**
- **Released wireless LAN products**
- **Acquired Scientific Atlanta**

- **1984** Shipped first router
- **1986** IPO; 192 employees
- **1988**
- **1990**
- **1992** Released Catalyst switch
- **1994**
- **1996**
- **1998** Shipped first IP telephone
- **2000**
- **2002**
- **2004** Acquired Linksys
- **2006**
Cisco Worldwide

- 2006 revenue: $28.5B
- $3.22B spent on R&D
- 49000 employees in 77 countries
- 40% Engineering/IT, 30% Sales, 30% all others
- > 1,100 issued patents
Introduction to Cisco

- Network is the focus, but increasingly diversified
  - High end routers, switches
  - Networking and security software
  - Home networking, entertainment devices

- Increasing consumer focus
  - Linksys, Scientific Atlanta
Cisco in China

- Huge market
  1.3 billion people, GDP growth 7-9%

- High technology adoption
  Broadband easier to obtain in many Chinese cities than in US
  Innovative technology efforts
    CERNET – tens of millions of users, often 90% utilization
    IPv6 network funded by government

- Still many challenges
  Still immature and emerging (GDP/capita: US$1,728 in 2005)
  Huge investment to raise China to developed countries level
China Research & Development Center (CRDC)

Subtitle
CRDC Mission

- **Localize** existing Cisco products
- **Design**, develop, test and support Cisco products sold worldwide
- Maintain **close relationships** with government and academia
CRDC History

- Sept ’04 – Cisco announces $32M investment establishing CRDC
- Jan‘05 – Est. 2nd Shanghai Branch of Cisco Systems (China) Networking Technology Co, Ltd
- Jan'05 - First local staff hired
- Aug'05 – Move to Shanghai Caohejing Hi-Tech Park
CRDC Overview

- Diversified development activities
  - Even division between hardware and software development
  - More design-oriented (versus maintenance)
  - Bottoms-up approach towards selection of development projects

- Continued strong growth
  - Currently 360 employees, doubling each year
  - Hiring rate impossible in US

- Wholly owned subsidiary
  - JV no longer required
  - Avoid technology transfer issues
Benefits of China Development

- Engineering talent pool
  - China graduates more engineers than US
  - Attrition rate comparable to Silicon Valley
  - Still low cost relative to US

- Create governmental good will
  - Local government important for operations, enforcement
  - Central government connections important for sales, policy

- Proximity to manufacturing
  - Benefits hardware development
IP Protection Issues in Development

- Generally
  - Distinguish counterfeit vs. leakage in operations
  - IP risk not necessarily greater than elsewhere

- Protection
  - Address cultural issues through education
  - Need to know access
  - Partition IP based on sensitivity

- IP law uncertainties
  - Moral rights can’t be waived
  - First to file regime for patents – favors local companies
Other Challenges

- Management pool developing
  Expats higher percentage of managerial team than individual contributor level

- Strong executive sponsorship essential

- Export Control
  US – may restrict what technology you can bring to China
  Chinese – requires enumeration of what sub will do

- Incorporation in China expensive
  Up to $60K
Investments

Subtitle
Overview

- Lots of optimism in China
- Innovation, but not yet technology-based
  - Successful ventures based on business model, not core technology
  - Relationships often important
- Significant increase in number of deals across the board
  - More funds actively investing in China market
  - VCs are under pressure to invest, resulting in more but smaller bets
  - Competition leads to more earlier stage investment
China Venture Environment

• VC market still very early stage (4 years of history)
  Data still incomplete and trends difficult to define
• Fundraising peaked in 05 post successful 2004/2005 exits
• Supply outpace demand
• Not much visibility on exits
• Increased M&A activities
What are the units?

What are the exits?

Are returns going to be diminished by the level of investment?
Cisco’s Activities

- Cisco is strategic investor
  Market learning, technology, demand driver
- Primary focus on gaining market learning
  Increasing M&A presence in China
  Existing direct, indirect investments
  Understanding special features of investing in China
Trademarks

Subtitle
Background

- Hardware counterfeiting and software piracy: challenges for every tech company with global brand
  - Software piracy tends to be dispersed worldwide, hardware counterfeiting concentrated in manufacturing centers
  - Counterfeit/pirated products sold around the world

- Consequences
  - Revenue impact
  - Dissatisfied customers
  - Increased support cost
Addressing Counterfeiting

- **Prevention**
  - Support – identifying counterfeits
  - Holographic labeling of components
  - Selection of reputable manufacturers

- **Enforcement**
  - Cisco participates in industry and US-govt encouraged effort to train local police enforcement on identifying counterfeits
  - Shenzhen and Guangdong anti-counterfeiting police groups
  - Generally, good cooperation, including criminal prosecutions
Standards

Subtitle
Standards

- Standards important to interoperability
  - Encourages rapid development
  - Ideally, benefits IP holders and IP users

- Issue of great interest to China
  - Desire to understand how the system works (industry)
  - Desire to understand how governments use standards to benefit local industry (government)

- China has top-down approach towards standards
  - Compare with US – mostly bottoms-up

- Participate in international standards or focus on domestic-only national standards?
  - US has many national standards, in telecom we often bring them to international bodies to encourage interoperability
AVS Forum

- Driven by negative DVD industry experience
  Fledgling industry forced to pay royalties to patent holders
- Consortium to create new video compression standard
  Participation includes major international companies (Sony, Phillips)
  Currently focused on domestic markets
  Wuxi suing Phillips for antitrust violations in San Diego
- Advantages in creating standard
  Huge internal market
  Dominant manufacturing base
- Components
  Patent Pool
  Standard
WAPI Standard

- Wireless Authentication and Privacy Infrastructure
  Wireless security standard

- Promoted by Chinese government
  China announced in 2003 that WAPI mandatory in China
  Encryption algorithm provided only to 11 domestic companies
  Foreign companies required to obtain license from domestic companies
  ISO has rejected WAPI

- Concerns
  License cost
  Technology disclosure
Q and A