
# Voice/Video-over-IP

## The disruptive technology that changes the way people communicate

# Outline

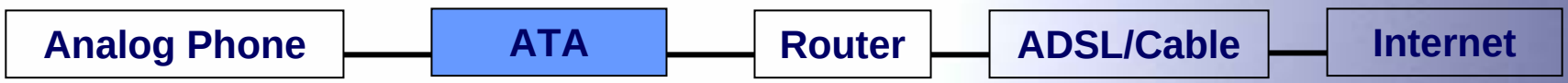
- Grandstream Company Overview
- Brief review of VoIP history
- Current market situation
- Where is the technology and market heading
- How do small companies survive and thrive in this exploding market
- IP Video Phone Demo
- Q & A

# Grandstream Company Overview

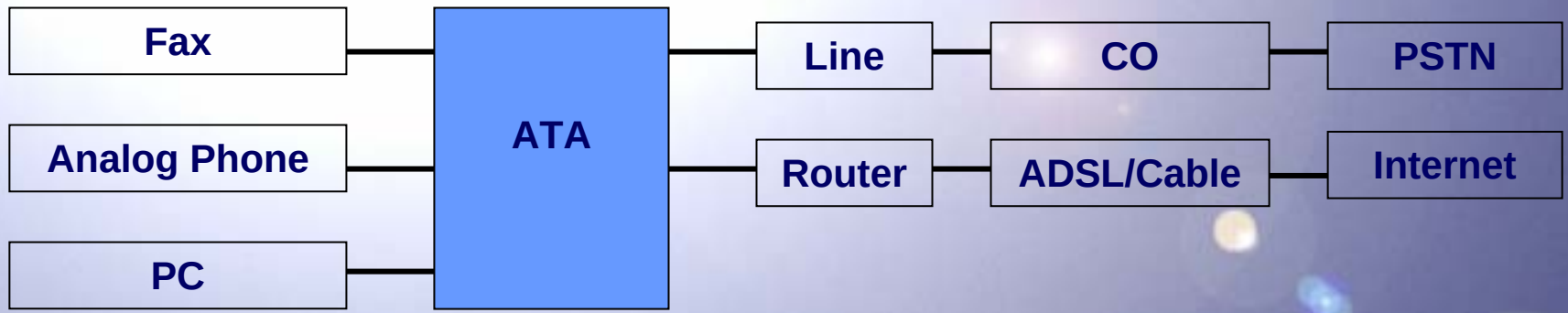
- Incorporated in early 2002, privately held
  Founders: David Li CEO, Xiang Wei CTO
- 80 employees (Boston, Dallas, Los Angeles and Shenzhen/China)
- Core business: VoIP (IP voice & video) endpoint equipments
- Profitable since 2003, zero debts, self funded
- Solid 3-digit sales growth rate year-over-year
- Top tier world class customers and large installed base worldwide

# Grandstream Company Overview - Endpoint Products (I)

- **Basic ATA (Analog Telephone Adapter)**

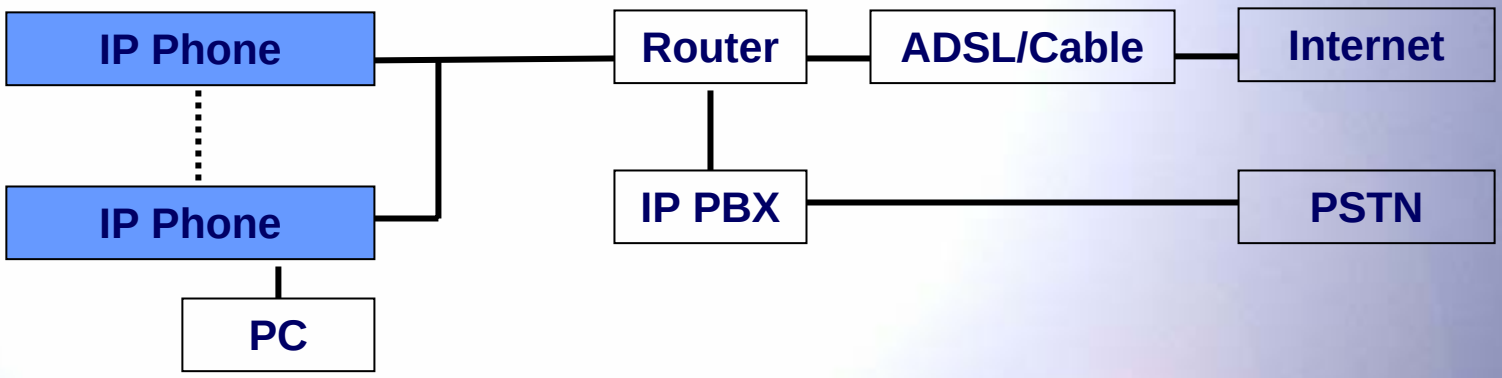



- **Multiport ATA (FoIP, PSTN switch, PC port)**



# Grandstream Company Overview - Endpoint Products (II)

- IP Phone




- Video Phone

  IP Phone with new HW for color display, high MIPs cpu for video codec, just another media stream for call management.

# VoIP History –
# Early Adoption Phase (1999-2002)

- **Multiple technologies/standards (SIP, H.323, MGCP) co-exist and lack of a clear leading standard**
- **Mass deployment over Public Internet impeded by:**
  **Lack of interoperability**
  **High cost of end points**
  **Complexity of use, provisioning and firewall/NAT issues**
- **Toll charge saving was primary market driver**
- **Cisco spent 3 years to sell their first million IP phones**

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# VoIP History – Market penetration phase (2003-2005)

- SIP emerged as a leading industry standard
- Endpoint Cost Reduction: Availability of low-cost commercial quality VoIP endpoints with auto provisioning & firewall/NAT traversal capabilities
- Emerging Service Providers with aggressively priced consumer calling plans over public Internet (Vonage, AT&T, Comcast, Yahoo, AOL, MSN, Google)
- Skype's free PC softphone peer-to-peer service became wildly popular in the consumer VoIP market

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# VoIP History –
## Market penetration phase (cont'd)

- **Cisco sold accumulated 6 million IP phones by October 2005**
- **Vonage subscriber base topped 1 million in September, 2005**
- **Skype subscriber base topped over 61 million (170K new users per day) with about 2 million paid users;  30% are business users.**
- **In enterprise market, IP-PBX deployment surpassed traditional PBX for the first time in history**
- **Accelerated decline of voice service income for traditional fixed line telecom operators**

# VoIP History –
## Market penetration phase (cont'd)

- **ATA is the fastest growing segment in consumer VoIP equipment market (low cost & good features are key)**
- **Business IP phone has become the fastest growing segment in enterprise VoIP equipment market (features, quality, and affordability are key)**
- **Open source IP-PBX technology (e.g., asterisk) become increasingly popular in SMB market**

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# Next stage market expansion - Mainstream growth phase (2006 and beyond)

- **Continued downward price movement in consumer VoIP service offering where competition becomes white hot**
- **Accelerated growth of peer-to-peer FREE VoIP service network (Skype)**
- **Content rich consumer IP multimedia services will be introduced**

# What next:
## changes, challenges & opportunities

- **Market**

  **With price war looming, how will service providers differentiate themselves going forward?**

  **With some high profile deals (eBay/Skype, etc) are over-hypes and bubbles of the VoIP market starting to appear?**

  **Are we near the market peak now?**

- **Technology**

  **What's next after voice?**

# Where is the VoIP market headed?

- Worldwide cell phone shipment in Q3 2005 is just over 200 million units. Traditional analog phone quarterly shipments are a lot higher
- Cisco's current shipping rate is 1 unit every 10 seconds or 4 million units a year—less than 0.5% of analog phone+cell phone current shipping rate
- We are still at an early stage of a major market expansion in the next 10 years

# Where is VoIP technology headed?

- Is Video-over-IP the next big thing?
- What are the hurdles that currently prevent IP video applications from becoming a mass phenomenon?
- How do you distribute video?  Is VoWLAN going to take off in the home or Enterprise? Is the market waiting for 802.11n?

# Where is VoIP technology headed – Video over IP

- IP video is in the same situation as Voice a few years ago, terminal is expensive, bandwidth problems
- H.264 is the enabler
- ADSL/cable @ 100-200 kbps
- Requires very powerful processor
- Key is affordability
- We feel opportunity is similar to voice and opens up opportunity for service providers to offer value add video services (e.g. VOD)

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# 10 predictions for 2010

- VoIP will have a new meaning: Voice & Video-over-IP
- IP voice only commercial service cost will gravitate to a commodity, sub-$10/month for unlimited domestic call
- most of today's ITSP will disappear or become niche players
- 2-way interactive high-definition IPTV service will become mainstream (From Telco? AOL?)
- IP video phone will be bundled with service providers' offering or retail for less than $150

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# 10 predictions for 2010 (II)

- More than half of new shipping cordless phones will be IP ready (Vonage/Panasonic already subsumed the ATA into a cordless phone)
- More than half of US businesses will use IP phones with IP-PBX or IP-enabled key systems, mostly SIP based
- Skype network will reach critical mass (500M users?) to challenge the sole dominance of traditional PSTN network for voice/video communications
- Skype technology will move beyond PC softclient to be embedded in standalone consumer VoIP devices (Skype just announced a WiFi phone)
- IP multimedia endpoint equipments will become a multi-billion $$$ market

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# Who will be likely winners in this major market & technology shift?

- Consumers and business users
- Equipment manufacturers (major players)
- Semiconductor suppliers
- Software tool or component suppliers (e.g. voice & video codecs)
- Service providers that can deliver rich content or community aggregation on top of competitive communication services

# Elements for success

## Experiences & lessons learned

- **Vision & Market Insightfulness**
  **(Making a business of commodity products,**
  **Ease of provisioning for service providers )**
- **Innovation & Sustainable Competitiveness**
  **(common platform across multiple products,**
  **anti-blocking,**
  **packet loss, echo cancellation )**
- **Focus and Fast Execution**
- **Constant Adaptability**
  **(Market driven changes throughout product development)**

- Q & A
- Videophone Demo