FORMERLY VOIP DEVELOPER CONFERENCE

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COMMUNICATIONS
DEVELOPER CONFERENCE™

Hyatt Regency • May 15-17, 2007 • Santa Clara, California

WWW.COMMDEVELOPER.COM

Phone-Ready PCs

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Legerity, Inc.

- **VoIP Expansion Beyond Skype**
  - **How It All Got Started**
  - **Example solutions**
  - **Average Cost of Customer Acquisition**
  - **VoIP Service Provider's Challenge**
  - **VoIP in PCs vs. Modems or Routers**
  - **The PC with ATA Functionality**

- **PC Expansion Beyond Desktop**
  - **PC is the Center of Digital Life**
  - **PC Purchase Experience**
  - **Benefits of Phone-Ready PC**

- **What's Being Developed**
  - **Intel, Systemax, Asus, AMD**

- **Summary**

VoIP Expansion Beyond Skype

- ## VoIP is now a reality
  - **Key Market drivers**
    - **Cost savings**
      - primarily long distance
    - **New services**
      - feature rich functions
  - **Strong deployments materializing in 4 product categories**
    - **Cable eMTAs (MSOs)**
    - **DSL IADs (Telcos and ITSPs)**
    - **FTTx / PON equipment (Telcos)**
    - **MSAP/IMS (Telcos**

Subscribers (in Millions)

Company	Subscribers
YAHOO! BB Japan Broadband	5.0
Francetelcom.com	2.5
Vonage	2.2
neuf cegetel	2.2
Comcast	2.0
TIME WARNER CABLE	1.9
free	1.7
NTT Communications	1.5
CABLEVISION	1.1
FASTWEB	1.1

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How It All Got Started

CABLE / DSL MODEM

INTERNET

PHONE ADAPTER **(with Router functionality)**

FAX
(optional)

TELEPHONE

PERSONAL COMPUTER

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VoIP Gateway Design Example

2 Ports D-Link / AT&T CallVantage VoIP Gateway

DSP

NPU
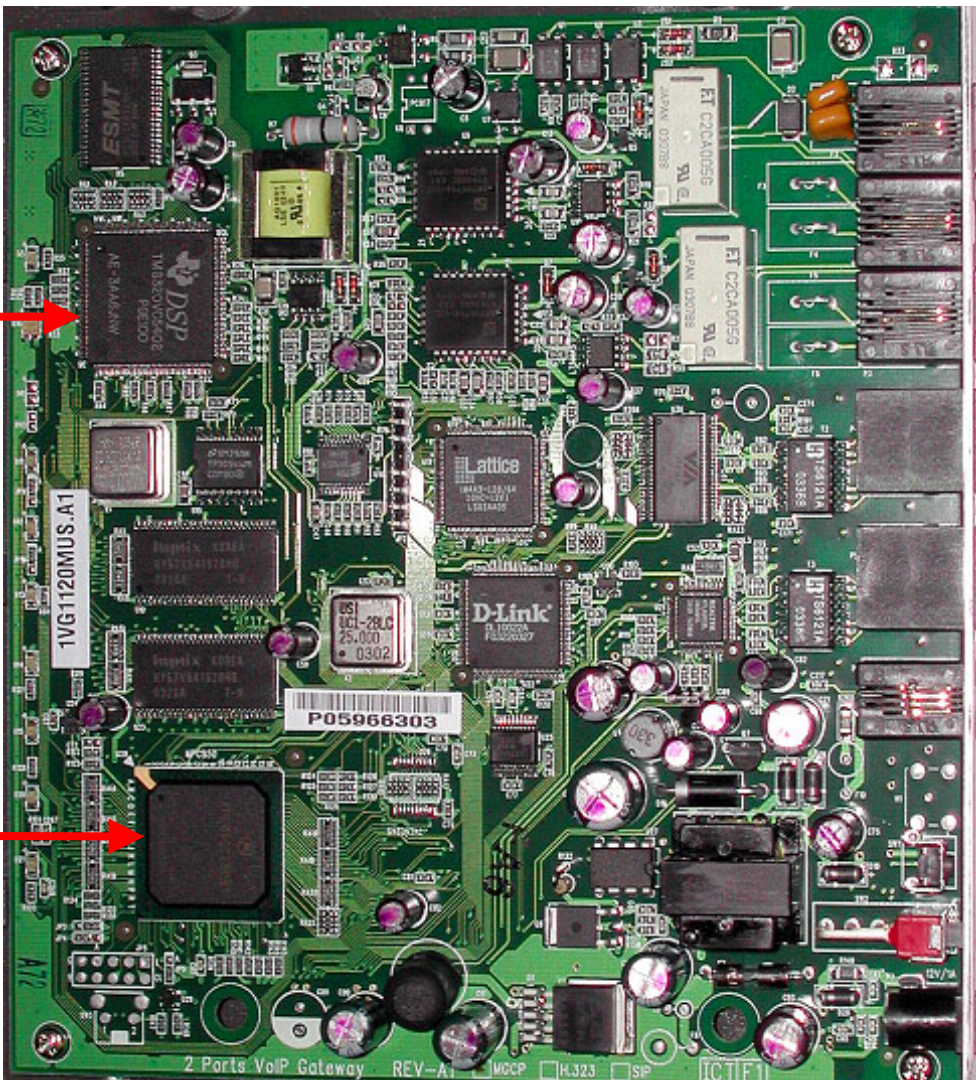
Phone (FXO)
(RJ-11)

Phone (FXS)
(2 RJ-11s)

Ethernet (PC)

Ethernet (WAN)

External Power Supply

Embedded 2 Ports VoIP Gateway

Phone
(2 RJ-11)

USB

Ethernet

Voice DSP
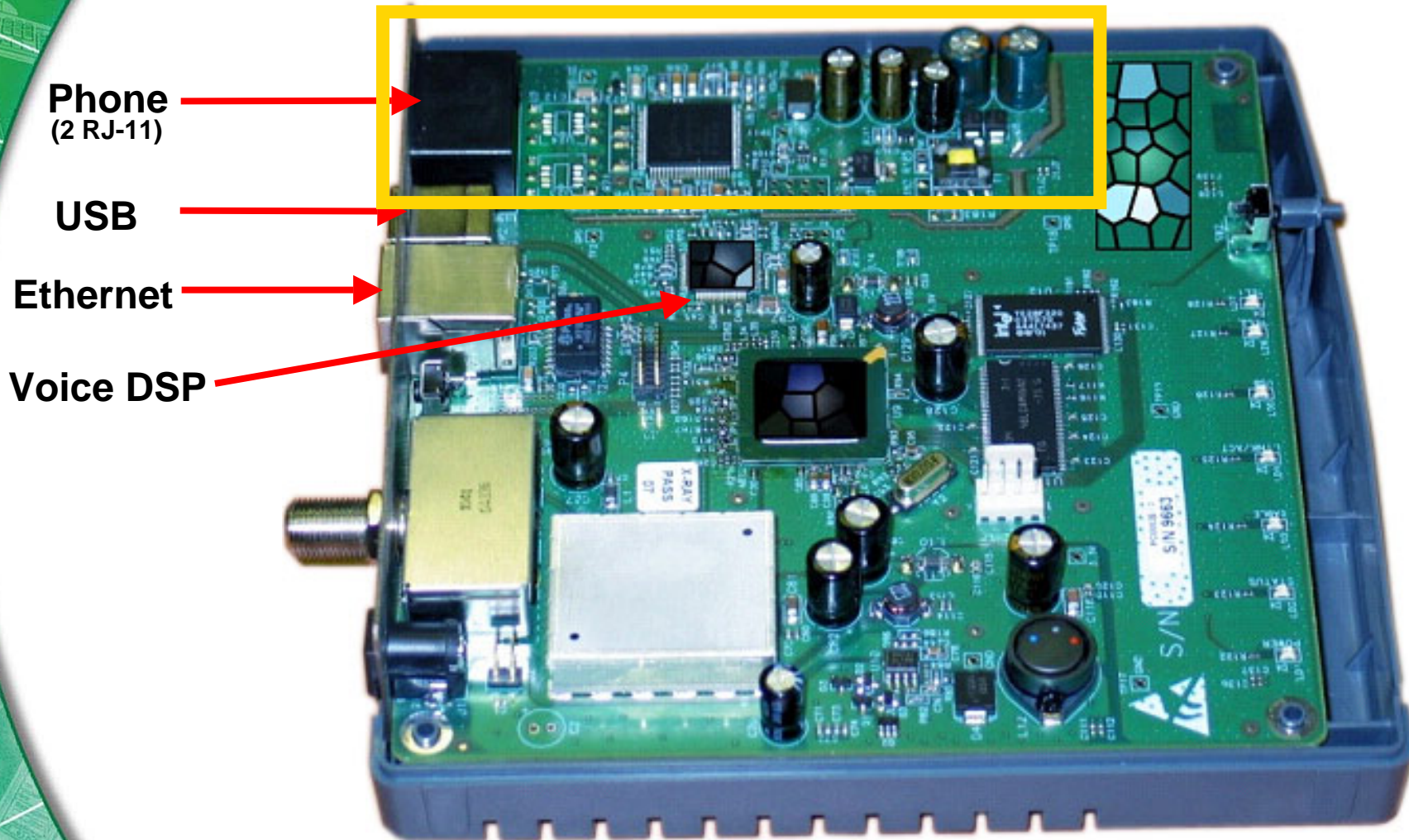
The Service Provider Vision – Operational Cost Highlights

VoIP

CPE Costs
Terminal adapter and kit - $47
Distribution - $10
Battery backup - $20

Self Install
23% of all VoIP installs (US)
50% require support call
$36 per support call

Truck Roll Install
77% of all VoIP installs (US)
Truck roll (Average) - $65
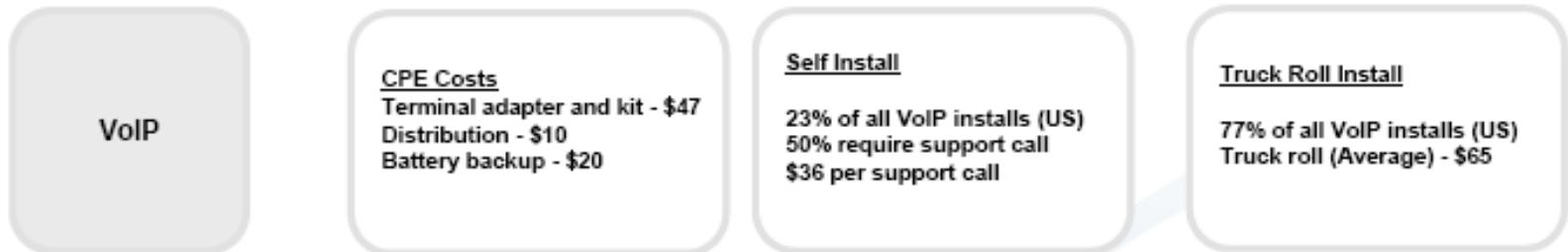
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The Economics of Delivering Triple Play to the Home

December 7, 2006

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- **According to Yankee Group**
  - **77% of VoIP installation (in US) requires a truck roll at $65 per install**
  - **50% of self installation results in a tech-support calls at $36 per call**
  - **CPE VoIP equipment costs ~$47 per customer**
- **The overall cost of advertising, retail, and support easily doubles the attached cost estimates**
- **In Q1'07, Vonage's Marketing Cost per Gross Subscriber Line = $275**

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- **VoIP Service Providers (VSPs) like Vonage, Packet8, and others are challenged by MSOs and Telcos as their cost of customer acquisition is very high**
  - **Spending ~$25-$50 subsidizing VoIP Gateway Hardware**
  - **High cost for advertising to attract customers**
  - **High cost to carve out shelf space within retail establishments**
  - **Time spent supporting new customers installation**
- **On the other hand, MSOs and Telcos are bundling Voice as an incremental service over Video and Data**

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- **Modems (Cable / DSL) or Routers (Wired or Wireless) are usually single function gear**
  - **Modem / Router market is fragmented and not standards driven**
  - **Modem / Router still depend on separate DSP core for VoIP**
  - **There is no easy path to provide future enhancements or benefit from any recurring revenue**

- **PCs are standards-driven multi-function devices (Microsoft, Intel, AMD,..)**
  - **Advantages of embedding VoIP within PC**
    - **Smaller upfront equipment cost**
    - **Lower cost of customer acquisition and support**
    - **Overall PC ASP goes down as VSPs offer bundling rebate**
    - **PC offers a viable infrastructure for future enhancements**
    - **Accelerates VoIP adoption as the PC offers a proven "try before you buy" model**

The PC with ATA Functionality

Today

Telephone

Cable/DSL Modem

Fax (optional)

Personal Computer

Internet

Digital Phone Adapter
(with Router functionality)

Tomorrow

Cable/DSL Modem

Telephone

Personal Computer

Fax

Internet

**(Embedded VoIP /
No Router required)**

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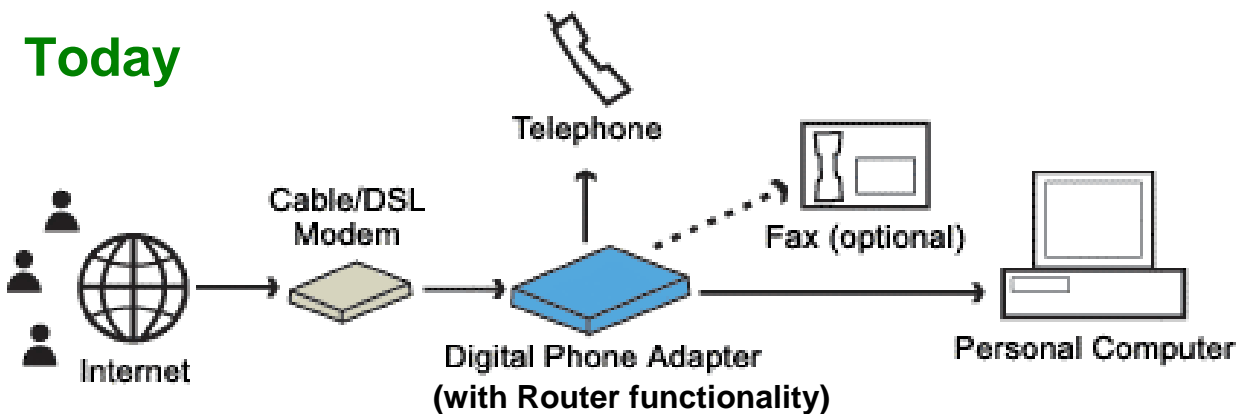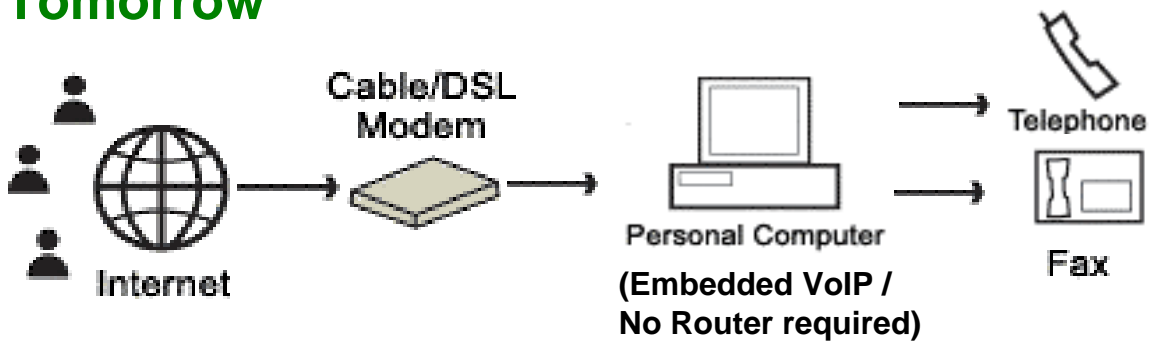
- **PC's have been evolving and are being integrated into our daily life**
  - **Our digital life now includes :**
    - **Multimedia: Photos, Music, Movies**
    - **Entertainment : DVD Movies, Live TV**
    - **Education : Distant Learning, Internet**
    - **Home Automation : Security, Control**
    - **Accessibility: Broadcast within the house or more**
    - **Portability : Mobile, PDA**
    - **Communications : Messaging, Net Telephony**

PC is the Center of Digital Life

AMD
Smarter Choice

Protect
Sync, Back-up, Restore Files and Media

Entertain

Personal content
Photos
Music
Videos

TV content
Cable
Satellite
Terrestrial
PVR/DVR
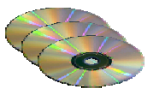
Physical media
DVD
HD-DVD
Blu-ray

Internet content
MSO IP Content
MovieLink
You Tube™
CinemaNow

Communicate
VoIP
Msg

Control
Automation, Security

Grow
Expandable, New Apps

Access
Remote Access to server and PCs from outside the home

Broadband Modem

Store and Stream Content Anyplace in House

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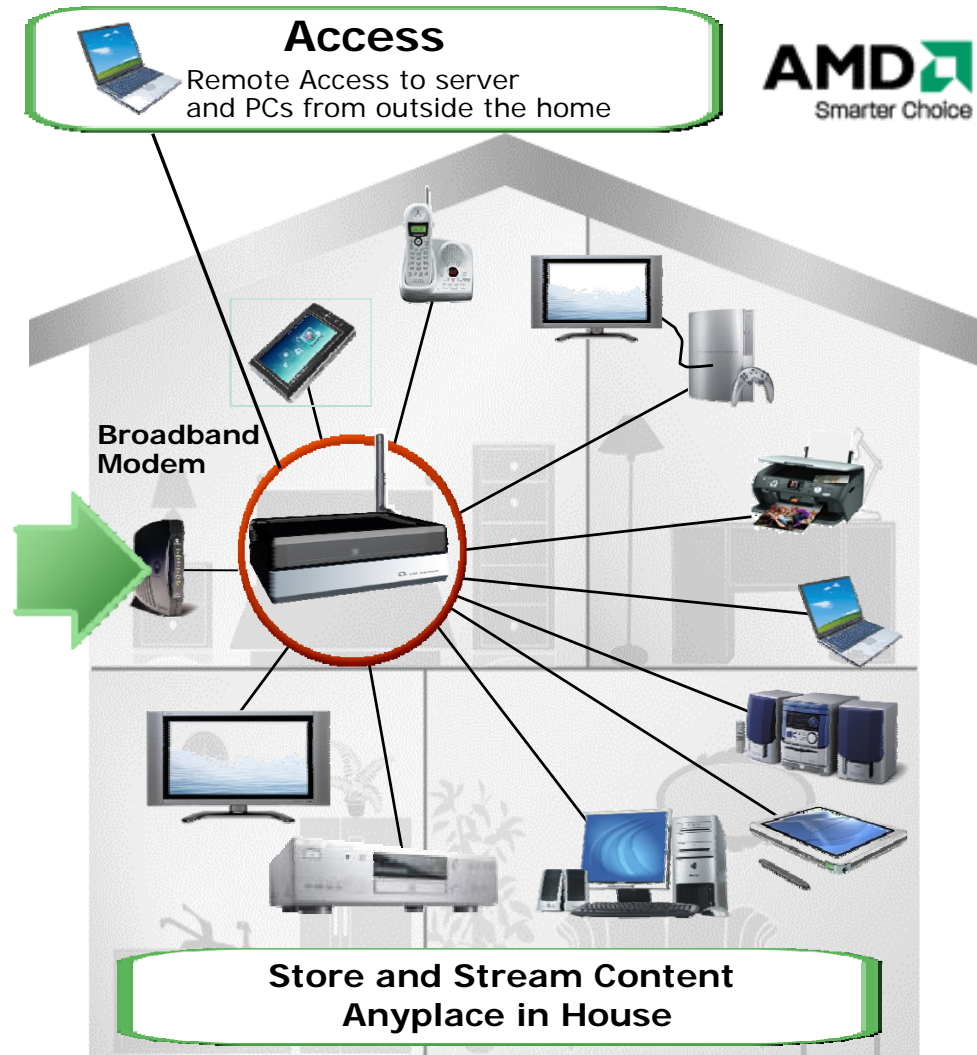
PC Purchase Experience

BUILD YOUR SYSTEM

Dimension 2400 Series
Learn more about processor performance

intel inside celeron

Intel® Celeron® Processor (2.40GHz, 400 FSB)

Select a High-Speed Provider

Shop by High-Speed Provider | Shop by Promotion | Help Me Choose

Location: (512) 301-3666 7000 Bee Caves Rd , Austin, TX 78746 Change Location

Narrow Your Results

By Provider:	By Monthly Fee:	By Access method:	View All High-Speed Plans
Show All Items ▾	Show All Items ▾	Show All Items ▾ ➡ Filter Results	

For a detailed side-by-side comparison of the plans available in your area, click on the check boxes below, then click Compare. You can compare up to 5 plans at once. Click "Select" to choose a plan, close this pop-up and return to customizing your system.

Note: billing for High-Speed Internet access is not reflected in the price of your system. You will be billed at a later date.

▸ Compare	Sort by Provider	Sort by Monthly Fee	Sort by Installation Fee	Sort by Download Speed	Sort by Access Method	Sort by Term	Plan	Details	
☐	EarthLink	$41.95	$0.00	Up to 3.0 MB	Cable	None	EarthLink Cable EarthLink High Speed Internet	$29.95/month for 6 months!	➡ Select
☐	DiRECWAY	$59.99	$199.99	Up to 700Kbps	Satellite	15 months	DIRECWAY Satellite "Home" Plan - Upfront Purchase	GET A $100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY!	➡ Select

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- **Cost of customer acquisition is low**
  - **No need to spend millions in advertising**
  - **No need to waste time & money on retail channel**
  - **No need to hold every customer's hand during initial installation**
  - **Your PC comes pre-configured with VoIP (HW and SW)**
    - **Customer just plug in their current phone into the new Phone-Ready PC**

- **PC OEMs already offer Broadband connectivity as a "bundled" service, VoIP is yet another incremental offering**

- **PC industry can really help accelerate VoIP adoption by offering the proven AOL "Try before you buy" model**
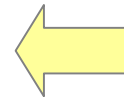
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- **In Q306, Intel developed a HD VoIP adapter**
  - **The solution provides Phone connectivity via a HD adapter with Packet8 or Skype VoIP service**
    - **This is being developed under Intel's vPro initiative targeted at the Enterprise MB market and highlighted at various Intel Developer Forum (IDF) shows as part of it's concept PC platform**

Le98186 Device

Intel Concept PC demo platform

Intel HD VoIP adapter

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- **In Q4'06, Systemax launched the Venture VoIP PC**
  - **The solution provides Phone connectivity via a PCI adapter with pre-configured Packet8 VoIP service bundle offering $50 rebate**
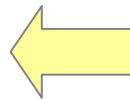
PhonePort ( )))

Le96136 Device

Packet8

Systemax

Price:	$349.72
Less Rebate:	- $50.00

Final Price: $299.72*

$50 Rebate. Expires on 12/31/2006. Click Here for Rebate TERMS & CONDITIONS
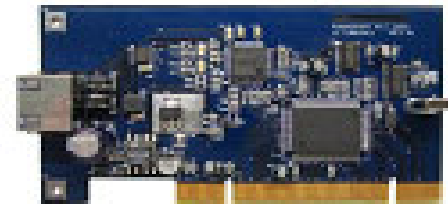Notice: Activation of Packet8 Softalk service is required in order to qualify for this offer.

Legerity PCI VoIP Ref. design

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ASUS VoIP-Enabled Motherboard

- **In Q4'06, Asus announced it's VoIP-enabled Motherboard bundle**
  - **ASUS TeleSky™ telecom adaptor and 60 SkypeOut Minutes bundled with Two New ASUS Motherboards**
    - **The solution provides Phone connectivity via a an internal USB module with pre-configured Skype service**


Asus' M2N TeleSky MB

Asus' P5B TeleSky MB

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- **In Q107, AMD started to demo VoIP as part of their Media Home Server PC**
  - **The solution provides Phone connectivity via a HD adapter with Packet8 or Skype VoIP service**
    - **The key enticement is ~ $100 rebate from the Service provider**

PhonePort

Le98136 Device

Designed for Microsoft® Windows®XP

skype™

Packet8

AMD DTX Media Home Server
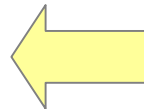
Legerity HD VoIP Ref. Design

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- **Computational and Communication devices are converging, allowing PCs to be the center of all of your communication needs**

- **The Phone-Ready PC benefits the entire food chain**
  - **Smaller upfront equipment cost**
  - **Lower cost of customer acquisition and support**
  - **Overall PC ASP goes down as VSPs offer bundling rebate (~$100)**
  - **Accelerates VoIP adoption as the PC offers a proven "try before you buy" model**
  - **The PC offers a viable infrastructure for future enhancements**
  - **Customer acquisition rebate and sharing of recurring revenue benefits all the key stakeholders from VoIP subscription**