

 **VONAGE** The Broadband Phone Company



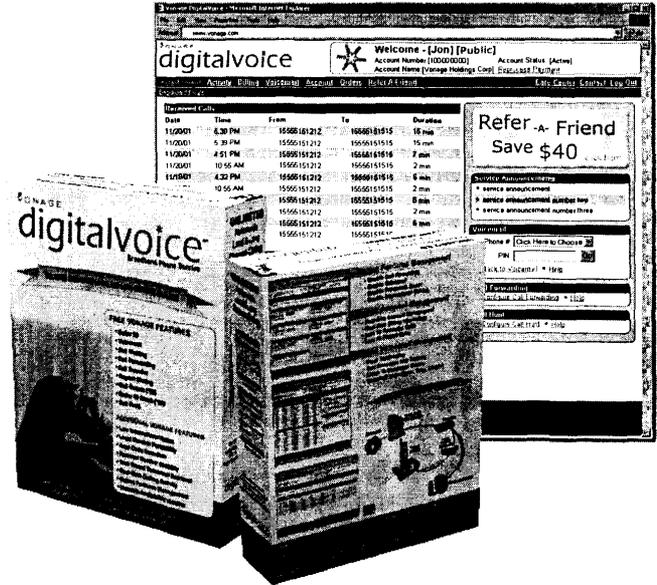
 **VONAGE**  
**digitalvoice**<sup>®</sup>

February 26, 2003

For further information from Vonage, please contact:  
Vonage at +1 (732) 528-2600 or [publicrelations@vonage.com](mailto:publicrelations@vonage.com).

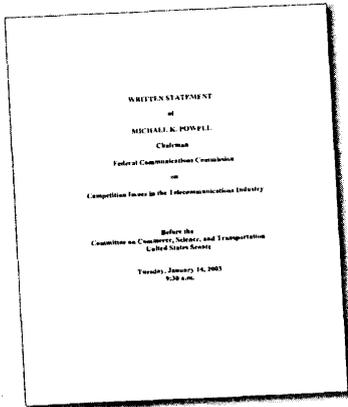


- **Product Offering**
- **Marketing and Distribution**
- **Media Coverage**



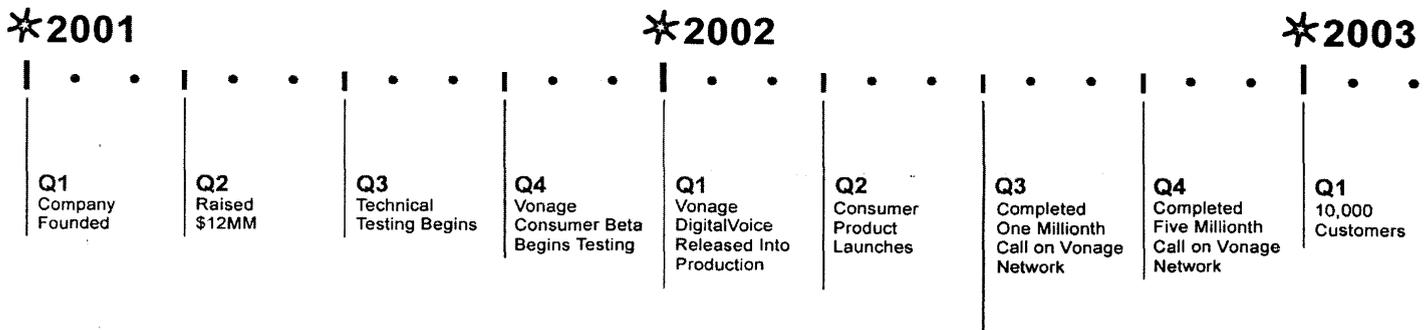
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# Who is Vonage?



**“2002 saw the introduction of reliable Internet telephony services as companies such as Vonage are providing an alternative to analog wired telephony over a broadband connection.”**

**–FCC Chairman Powell\***



\*FCC Chairman Powell in his remarks to the Senate Committee on Commerce, Science and Transportation, January 14, 2003

# Service Offering

same  
service

**Premium Unlimited Residential**  
*Unlimited Local & Long Distance  
Calling throughout US and Canada*

**Premium Unlimited Business**  
*Unlimited Local & Long Distance  
Calling throughout US and Canada*

**\$39.99**

VONAGE  
**digitalvoice\***

**\$69.99**

Fax Service \$9.99/month  
250 minutes of Fax Service  
3.9¢ overage



FREE Fax Line  
500 minutes of Fax Service  
3.9¢ overage

**Local Unlimited Residential**  
*Includes 500 Minutes of Domestic  
Long Distance and Calls Canada*

**Basic 1500 Minute Business**  
*1500 Minutes of Local & Long  
Distance Calls to US and Canada*

**\$25.99**

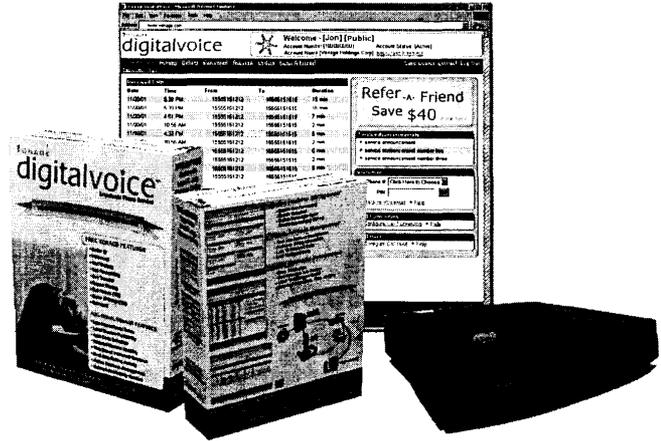
**\$39.99**

## Standard PSTN Features

- Voicemail
- Caller ID
- Call Waiting
- Call Forwarding
- Call Transfer
- Repeat Dialing
- Call Return (\*69)
- Caller ID Block (\*67)
- Call Hunt
- Local Number Portability

## Vonage DigitalVoice<sup>SM</sup> Features

- Web Based Voicemail Retrieval
- Real-time Calling Activity
- Low International Rates
- Online Features Management
- Network Availability Number



# Online Account Management

- Real-time Account Management
- Real-time Billing Information
- Last 10 Received Calls
- Last 10 Placed Calls
- Service Announcements
- Voicemail Retrieval
- Call Forwarding Features
- Exchange Your Phone Number

**Received Calls**

Date	Time	From	To	Duration
11/11/02	4:23 PM	17322456931	17325262668	5 min
11/11/02	3:16 PM	17322456931	17325262668	6 min
11/8/02	4:34 PM	17322456931	17326282668	2 min
11/8/02	2:28 PM	17322456931	17325262668	5 min
11/8/02	1:43 PM	17326657520	17325262668	8 min
11/8/02	11:38 AM	17322456931	17325262668	12 min
11/8/02	10:52 AM	17322456931	17325262668	6 min
11/7/02	4:17 PM	17322456931	17325262668	2 min
11/7/02	1:57 PM	17322456931	17326282668	4 min
11/7/02	10:54 AM	17322968909	17325262668	17 min

**Placed Calls**

Date	Time	From	To	Duration
11/11/02	4:28 PM	17325262668	17326161096	3 min
11/11/02	2:42 PM	17325262668	17322141800	21 min
11/11/02	10:50 AM	17326282668	17322456931	6 min
11/8/02	3:37 PM	17325262668	17322236363	1 min
11/8/02	2:23 PM	17325262668	19734917395	4 min
11/8/02	9:52 AM	17325262668	17326161096	4 min
11/7/02	3:51 PM	17325262668	17322456931	1 min
11/7/02	2:40 PM	17325262668	17322456931	1 min
11/7/02	2:39 PM	17325262668	17322456931	1 min
11/7/02	2:06 PM	17325262668	17322456931	1 min

# Online Billing Management

- View Changes in Real-time
- View Account Summary in Real-time
- Review Invoice
- View Payments
- Exchange Phone Number In Real-time
- View Minute Usage

The screenshot displays the Vonage DigitalVoice online billing management interface. The page is titled "digitalvoice" and shows a user's account summary. The user is identified as Kevin Pento, with account number 1002053870 and account name Vonage Holdings Corp. The account status is Active.

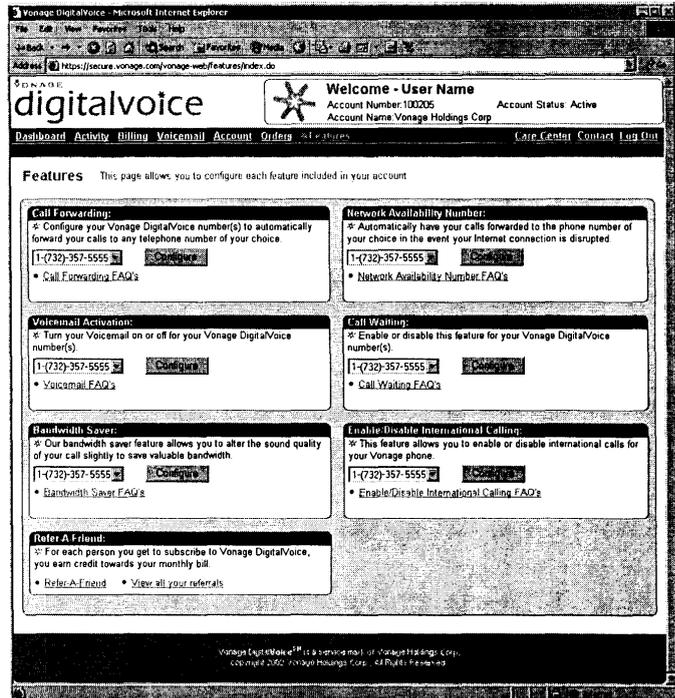
The interface includes a navigation menu with options like Dashboard, Activity, Billing, Voicemail, Profile, Account, Users, Orders, and Features. The main content area is divided into several sections:

- Billing Information:** Shows the current billing cycle (Nov 25, 2001 - Dec 24, 2001), the next payment due date (Dec 25, 2001), and the current balance (\$100.00). There is a link to view the billing history.
- Pending Charges Summary:** Shows a total charged call amount of \$39.99, with a breakdown of sales tax (\$0.00), FET tax (\$0.00), and approved credits (\$0.00). The total is \$39.99. There are links to view pending invoices and a note that the total does not include monthly billing plan charges.
- Change Your Phone Number:** A section with a link to configure a new phone number and a help link.
- Submit New Credit Card Information:** A section with a link to submit new credit card information and a help link.
- Request Credit:** A section with a link to request a credit and a help link.
- Plan Type: \$39.99 Unlimited:** A section with a link to click here to choose a plan. It includes a table for in-plan and overage minutes used.
- Recent Credits:** A table showing recent credits with columns for Date and Amount.

At the bottom of the page, there is a footer with the text: "Vonage DigitalVoice™ is a service mark of Vonage Holdings Corp. Copyright 2002 Vonage Holdings Corp. All Rights Reserved."

# Online Features Management

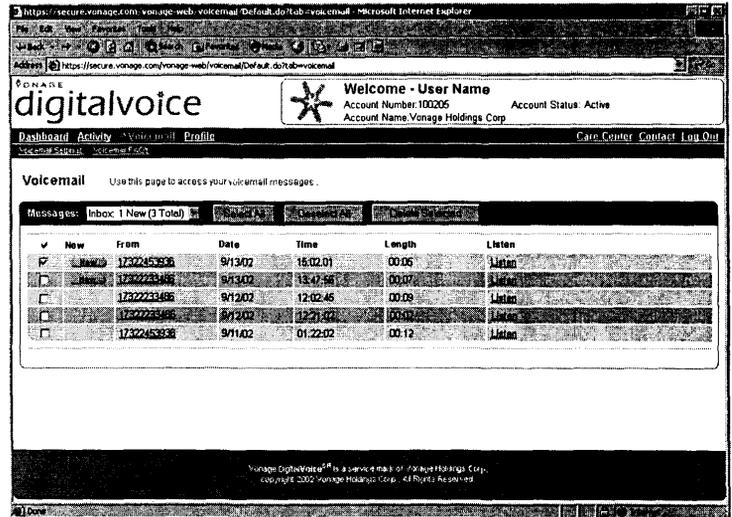
- Enable Voicemail
- Enable Call Forwarding
- Enable Call Hunt
- Enable Call Waiting
- Enable Network Availability Number
- Enable Bandwidth Saver
- International Call Block

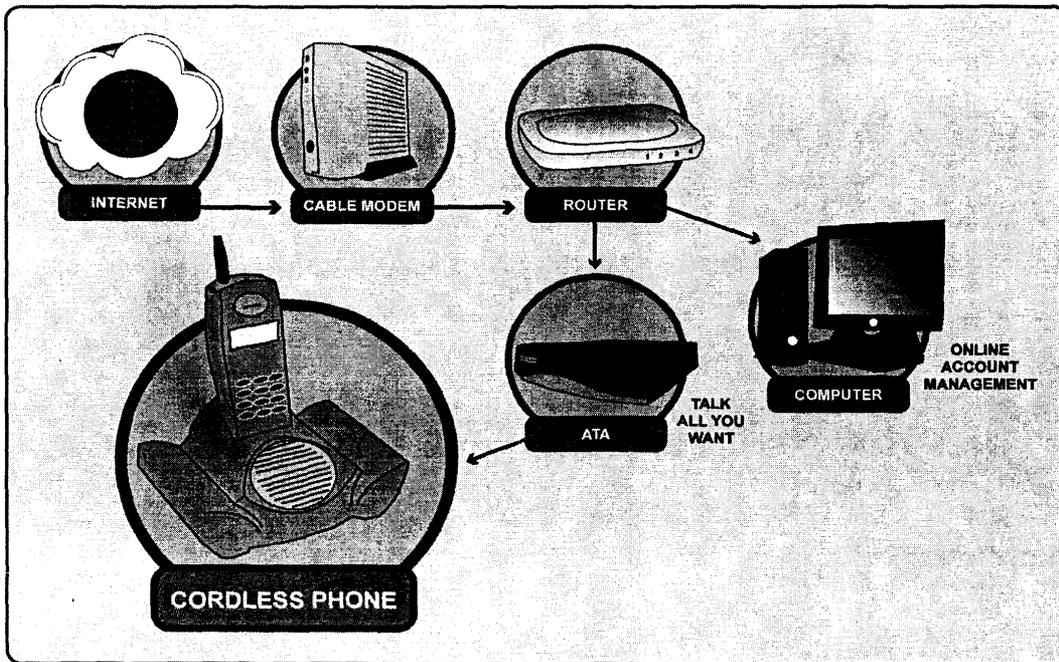


40498  
502

# Voicemail Management

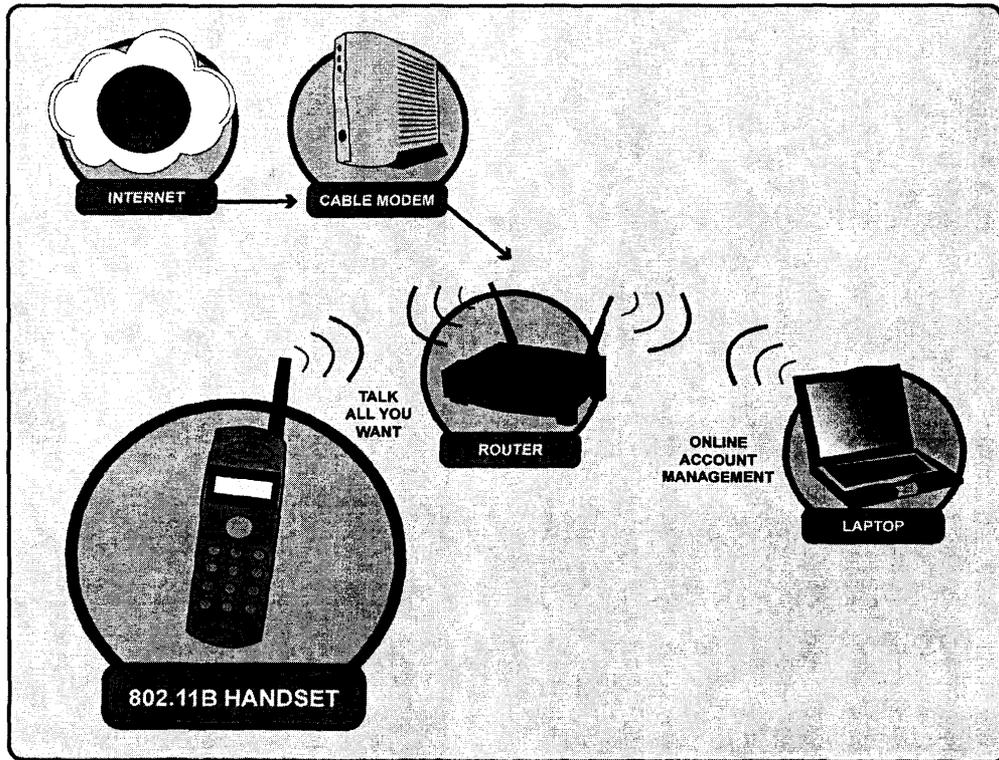
- Email Notification
- Listen To Messages Online
- Voicemail Logs (Date, Time, Length)
- Retrieve Voicemail from any Phone
- Voicemail Local Access Numbers
- Phone Voicemail Notification





Plug-n-Play  
Works With Any Touch-Tone Phone

# How It Works In The Future



top 51 any way

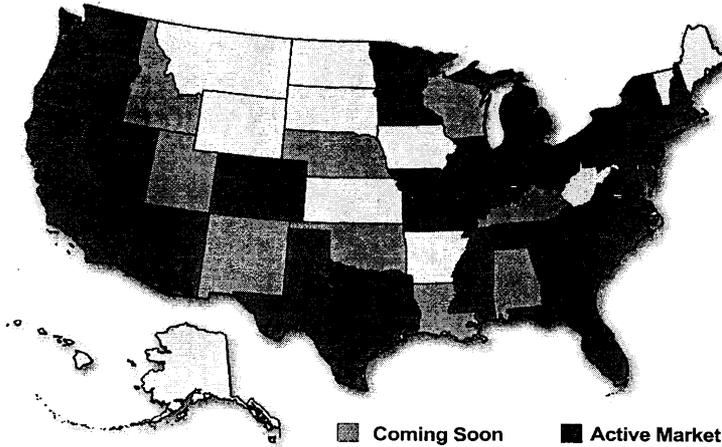
# Vonage POPs

By The End Of Q1

51 Markets In Service

162 Area Codes Available

894 Rate Centers



Vonage currently offers these area codes in the following states:

- NY 212, 917, 646, 718, 516, 631, 914, 845, 518, 585, 716, 315
- NJ 732, 201, 908, 973, 609, 856
- CA 415, 408, 510, 650, 707, 831, 925, 858, 619, 310, 323, 213, 818, 714, 805, 661, 562, 626, 949, 909, 760, 916
- TX 214, 254, 469, 713, 817, 903, 940, 979, 832, 936, 210, 512
- FL 305, 561, 786, 954, 321, 727, 813, 863, 941
- GA 404, 678, 706
- IL 312, 773, 847, 630, 708, 815
- MA 617, 781, 508, 978, 413
- DE 302
- IN 219
- PA 215, 267, 484, 610, 412, 717
- MD 443, 667, 410
- MN 612, 763, 952, 651
- CT 203, 860
- WA 206, 253, 360, 425
- VA 240, 301, 703
- DC 202
- MI 248, 313, 517, 586, 734, 810
- OH 440, 216, 614, 380, 330, 234
- NH 603
- RI 401
- CO 303, 720
- OR 503, 971
- AZ 602, 480, 623
- MO 314, 636, 557
- NV 702
- TN 931, 615, 901
- MS 662

## Vonage plans to offer area codes in the following cities in Q2 '03

- |                          |                         |                              |
|--------------------------|-------------------------|------------------------------|
| New Orleans, LA          | Charlotte, NC           | Cincinnati, OH               |
| Louisville, KY           | Charleston, SC          | Indianapolis, IN             |
| Omaha, NE                | Raleigh-Durham, NC      | Salt Lake City, UT           |
| Norfolk, VA              | Birmingham, AL          | Greenville, SC               |
| Grand Rapids, MI         | Oklahoma City, OK       | Jacksonville, FL             |
| Spokane, WA              | Kansas City, MO         | Greensboro-Winston Salem, NC |
| Albuquerque-Santa Fe, NM | Milwaukee-Green Bay, WI | Coeur d'Alene, ID            |

# Session Initiation Protocol

**SIP** is a certified standard of the Internet Engineering Task Force (IETF) and considered to be the emerging standard for VoIP

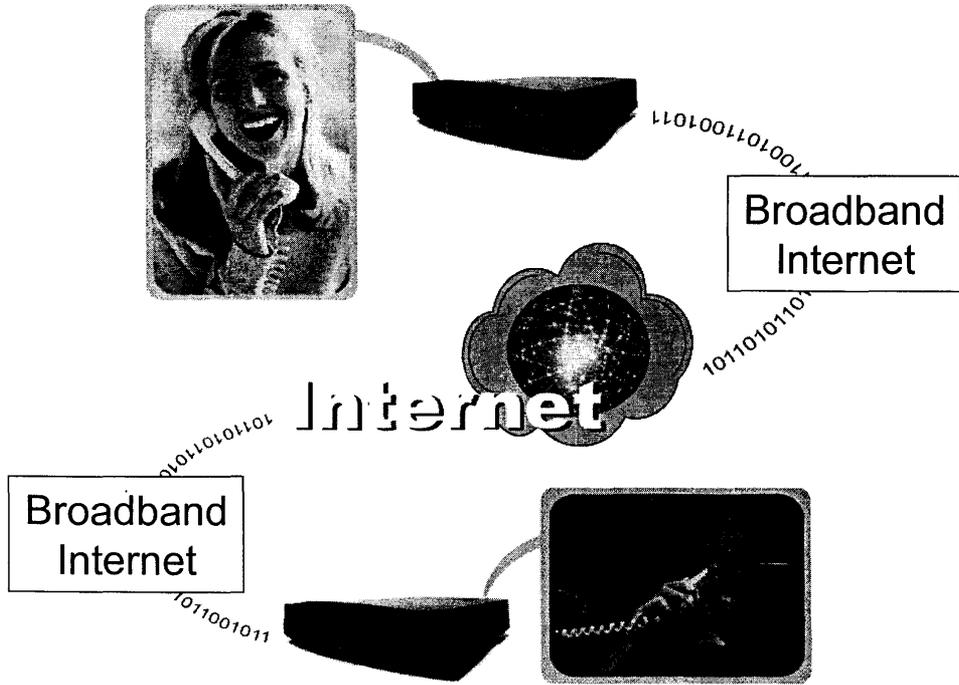
	SIP	H.323	MGCP/MEGACO
<b>Complexity</b>	Low	High	High
<b>Scalability</b>	Good	Poor	Moderate
<b>Internet Fit</b>	Yes	No	No
<b>SS7 Compatibility</b>	Established	Emerging	Established
<b>Cost</b>	Low	High	Moderate

- **Effective control of any media stream**
- **Lightweight, open protocol**
- **Highly scaleable**
- **Rapid development and deployment environment**
- **Seamless voice and data integration**
- **Efficient resource management**

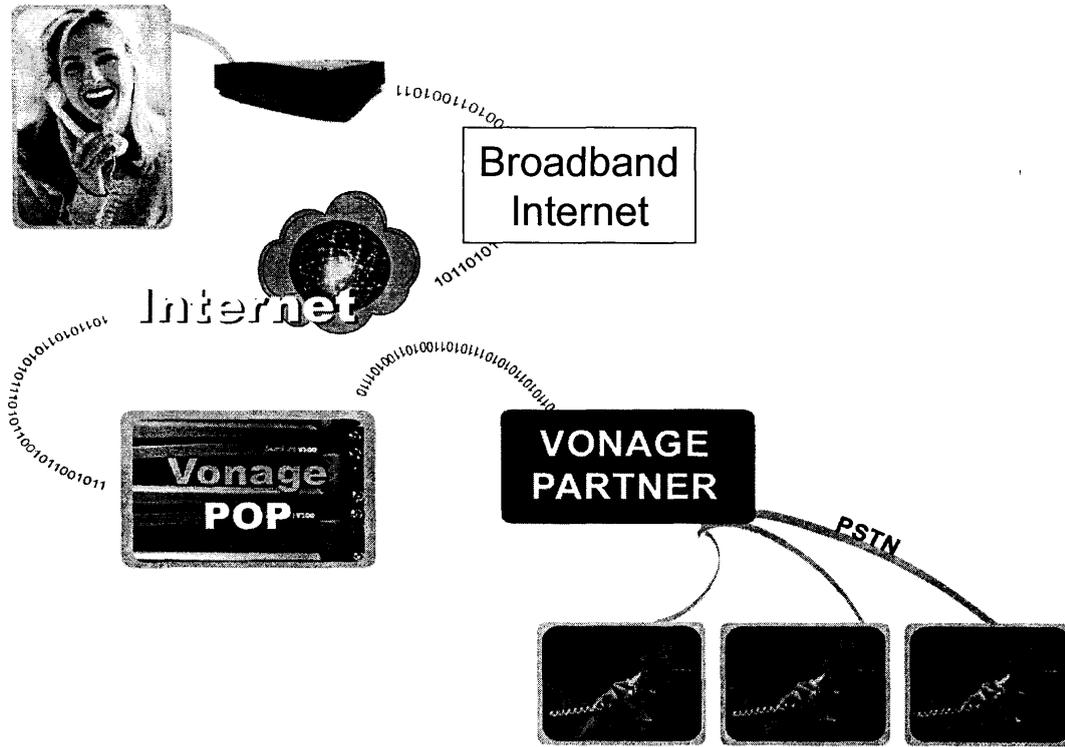
*“SIP is to communications what HTTP was to the Internet”*

*– Forbes June 2001*

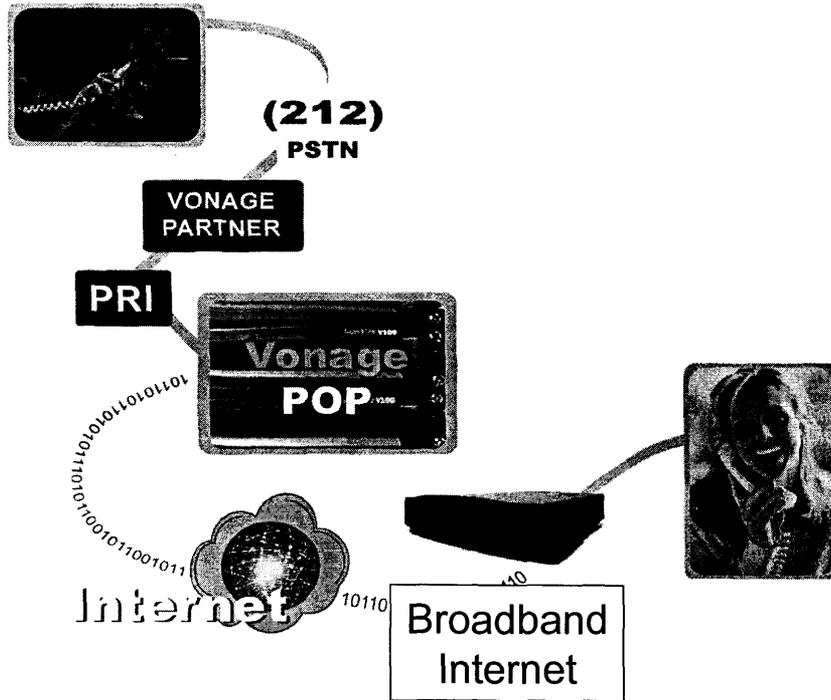
# Vonage to Vonage Call Flow



# Vonage to PSTN Call Flow



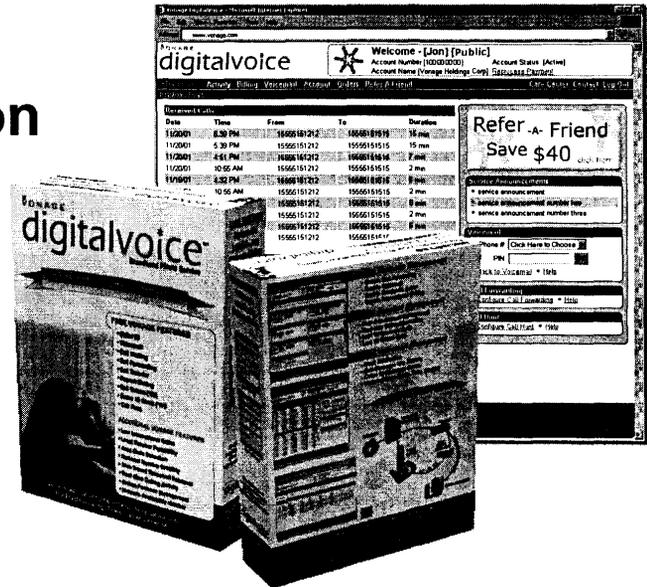
# PSTN to Vonage Call Flow



- **First VoIP provider to address short-form emergency services**
- **Working with partner to create custom basic 911 solution**
- **Implementing basic short-form emergency Q2 2003**
- **E911 solution in development**



- Product Offering
- Marketing and Distribution
- Media Coverage



February 26, 2003  
For further information from Vonage, please contact:  
Vonage at +1 (732) 528-2600 or publicrelations@vonage.com.



***To source customers for Vonage efficiently while at the same time building brand image and awareness***

# Vonage Broadcast Media

- **Direct Response Television**
  - National Cable
  - Spot TV in Seattle, Buffalo, Washington D.C., Houston
- **Howard Stern and Sports Radio Nationwide**



# Online Interactive Media



News for Nerds. Stuff that matters.



ADVERTISEMENT



**JUST SAY YES.**  
NO CONTRACT REQUIRED!

UNLIMITED Local Calling  
INCLUDES Voicemail, Caller ID, Call Waiting and more  
FREE Nationwide Long Distance Calling

Switch To Vonage DigitalVoice™  
I Do Have A Choice.

**\$39.99**  
a month\*

**digitalvoice™**

\*A one-time activation fee and high-speed internet connection required.  
© 2004 Vonage. www.vonage.com or call 1-VONAGE-HELP

Your old telephone company has so many prices for different calls...



**digitalvoice™**  
the monthly phone bill is easy to figure out!

one price  
one company, all the  
calls you want...

# Vonage DigitalVoice

VONAGE  
digitalvoice

How much can Unlimited Local & Long Distance Calling Cost? The average US household spends over \$100/month for local & long dist. calls. With Vonage you pay less than half!

**VONAGE digitalvoice** NOW YOU'RE TALKING...

HOME | RATE PLANS | FEATURES | PRODUCT TOUR | LEARNING CENTER

Vonage DigitalVoice can save you hundreds of dollars a year.

The average consumer spends \$877 per year on telephone service. With Vonage DigitalVoice you can save over \$600 annually on your local and long distance calling. Plus, if you make international calls, you can save even more. See how we stack up against the competition.

1. Bureau of Labor Statistics Consumer Expenditure Survey, May 2002

**Premium Unlimited Plan**

Plan	Vonage	MCN WorkAccount
Price	\$39.99/mo	The negotiated rate
Long Distance Calling	Unlimited	Unlimited
Local Calling	Unlimited	Unlimited
Features	Unlimited	Unlimited
Online Account Mgt	Yes	No
National Number Mask	Yes	No
Caller ID	Yes	No
Area Code Selection	Yes	No
Call Forwarding	Yes	No
Call Waiting	Yes	No
VoiceMail	Yes	No
Online VM Retrieval	Yes	No

**Sign Up Now!**

Compare Your Plan | Contact Us | Privacy Policy

Vonage DigitalVoice® is a service mark. Copyright 2002 Vonage Holdings Corp.

**\$39.99/month Unlimited Nationwide Calling**

**VONAGE**

I just dumped my big phone company and switched to Vonage. My phone bill is a lot simpler now. I used to get two separate bills, one for local and one for long distance. Vonage has a flat rate, so you can call anybody, anytime, anywhere in the United States. Vonage is amazing. The call clarity is terrific.

—Libby Greer

**Test off Verizon switching... at a click... of a button... (Alicia Gomez)**

**Have money at home and at work... (Bill Mac Nevin)**

**The long distance charges... (Alan & Lisa Hoag)**

**Charlotte Plano, TX**

**Here's Why People Are Talking About Us**

- FREE Call Waiting
- FREE Voicemail
- FREE Call Forwarding
- FREE Repeat Dialing
- FREE Call Transfer
- FREE Caller ID
- FREE Caller ID Block
- Control features remotely
- Keep your current number
- Great International Rates
- No contracts to sign, ever.
- Even choose an area code from another city
- Sign Up!
- Get More Information!

**Great International Rates**

London	5¢ per minute	Sydney	6¢ per minute	Hong Kong	6¢ per minute
Puerto Rico	14¢ per minute	Moscow	6¢ per minute	Toronto	6¢ per minute
Tel Aviv	7¢ per minute	Tokyo	7¢ per minute	Paris	6¢ per minute
Mexico City	6¢ per minute	New Delhi	29¢ per minute	Mumbai	6¢ per minute

HOW MUCH WAS YOUR PHONE BILL THIS MONTH? TOO MUCH?

Your New Home Phone Service

- Home Networking Installers
- Home Networking Equipment Vendors
- Business VARs

**Get The Most Out Of Your Education And Your Broadband Connection!**

**VONAGE**

Now your broadband connection can get you more than high speed access to the Internet. With Vonage it can get you unlimited nationwide calling for only \$39.99/month. That's all your domestic land and long distance calls for one fixed rate. And if you call out of the country, our anytime rates are so low that they will fit any student budget.

Talk as much as you want, anytime you want, anywhere in the U.S. for one low monthly fee. There are no contracts to sign. And you can use any touchtone phone. Plus, Vonage gives you a bunch of free extras like free voicemail, free caller ID, free call forwarding and free repeat calling (\*99). Hey, we know smart students are looking to save money. Make an educated decision and order Vonage today.

**Unlimited Nationwide Calling For Only \$39.99 Per Month\***

\*One time activation fee required

**Get The Most From Your Cable Modem**  
Get Vonage Digital Voice Today With Unlimited Nationwide Calls For Only \$39.99 Per Month\*

**Vonage digitalvoice**

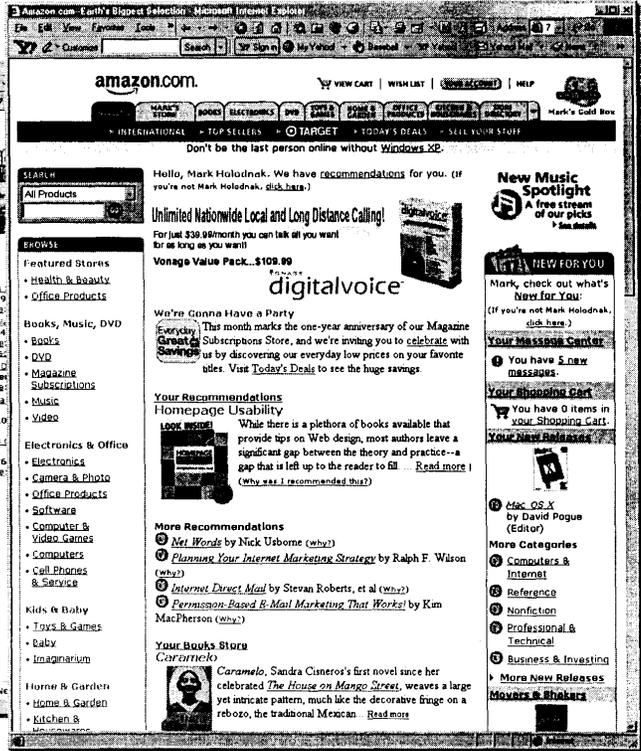
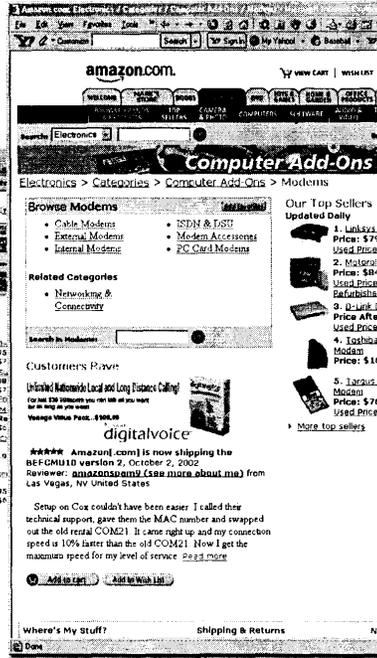
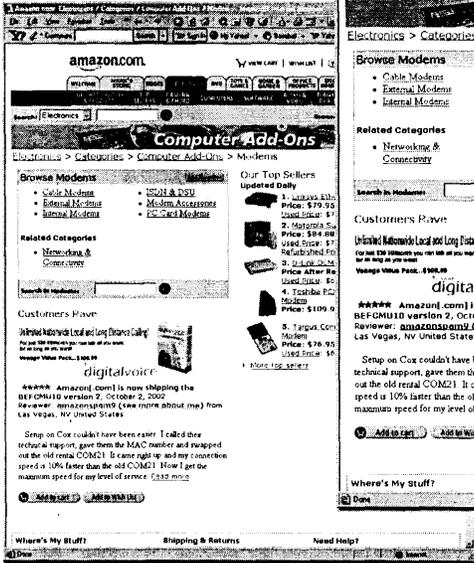
(online account management)

Now your cable modem can get you more than high speed access to the Internet. Maximize your monthly cable modem investment with Vonage, the telephone company that uses broadband to give you unlimited local and long distance telephone calling for one low fixed rate of \$39.99.

Talk as much as you want to anyone you want. There are no contracts to sign. Plus a bunch of free extras like free voicemail, call forwarding, caller ID and call waiting. Upgrade with the best digital quality. And discover our online account management. What are you waiting for? **ORDER VONAGE TODAY.**

\*One time activation fee required. WWW.VONAGE.COM

amazon.com.



Launched January 25, 2003

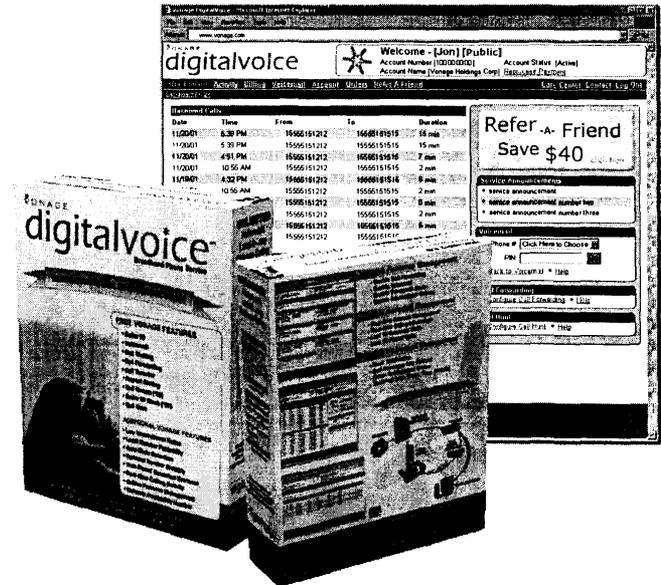
- **Retail**
- **Wholesale**
- **Private Label**
- **Strategic Partners**



**VONAGE**  
**digitalvoice\***



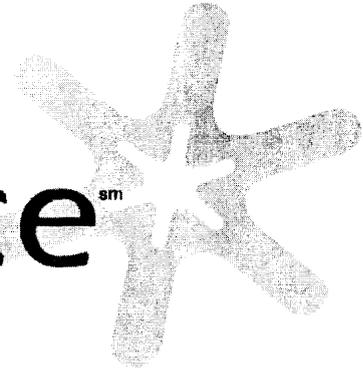
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TIME

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BUSINESS

4 new york nbc real time world wnbc

AP Associated Press

CableWorld

FOX 4 WDAF-TV - KANSAS CITY

InfoWorld

REUTERS

6 KTVX

NewsChannel 6 NETWORK

## TIME

“ Making phone calls online can save you big money and is easier than ever. Once the service is up and running, you quickly forget you're talking over the Internet. Really. Pick up the phone, and you hear a regular old dial tone, and anyone calling you will hear the usual ringing noise. The sound quality is crisp and clear. ”

**Lev Grossman**  
April 15, 2002



“ Vonage is the first company that seems to have gotten it right.

Previous VoIP setups were confusing and impractical. The sound quality was pretty bad, you could only call people who had a setup like yours, and most competing systems weren't interoperable. ”

**Christopher Allibritton**  
February 2003



**Tech's best: This is the 'wow' stuff**

“ For example, Vonage demonstrated that phone calls made via the Internet — VoIP, or Voice over Internet Protocol, in the jargon of the industry — could be made convenient and, more important, with the audio quality you're used to on an ordinary handset in your house. ”

**Ed Baig**  
December 11, 2002

## BUSINESS

“ I tried the system at home and found the voice quality to be excellent; notably, the system didn't suffer from the awkward lag (latency) that plagued earlier voice-over-Internet solutions.

The Vonage service doesn't require people to change the way they use the phone, and it offers some interesting advantages over the old systems. ”

**Rafe Needleman**  
November 14, 2002

## Forbes

### BAD CONNECTION

“The idea is simple: Use an Internet connection to carry a phone call from a home out to the regular phone network. Instead of paying the phone company twice for the same wire, pay once for an Internet connection that carries both voice and data.

Citron has plowed \$19 million of his own money into Vonage, a company that began offering local service over DSL in April. (It also works with cable modems, cutting the Bells out altogether.)

“The incumbents are ripe for being displaced, and technology has created a naturally disruptive force,” he says. ”

**Scott Woolley**  
August 12, 2002

## The New York Times

“Cable IP telephony is not likely to make an impact in any meaningful way before the beginning of 2004. But an Edison, N.J.-based start-up, Vonage Holdings Corp., hopes to buck the trend with Digital Voice, its broadband voice over IP (VoIP) product.

Vonage CEO Jeffrey Citron explains that the Vonage advantage is in its simplicity. All the consumer has to do to receive service is to plug a Cisco ATA-186 voice adapter into a broadband modem router.

“It’s the perfect plug and play application,” Citron says. ”

**Simon Romero**  
January 6, 2003

## Multichannel

“Citron’s latest technology gambit appears to be a bold attempt to capitalize on the broadband investments made by cable and phone companies. Over the last few years, cable operators have fought attempts by government to require carriage of unaffiliated Internet-service providers. In the cable-ISP debate, cable holds the upper hand in the sense that ISPs need some kind of business relationship with an operator in order to reach subscribers. ”

**Ted Hearn**  
January 6, 2003

## CableWorld

### ADVANTAGE, VONAGE? WE’LL SEE

“Cable IP telephony is not likely to make an impact in any meaningful way before the beginning of 2004. But an Edison, N.J.-based start-up, Vonage Holdings Corp., hopes to buck the trend with Digital Voice, its broadband voice over IP (VoIP) product.

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“It’s the perfect plug and play application,” Citron says. ”

**Anthony Crupi**  
October 14, 2002

**BOOSTERS OF INEXPENSIVE INTERNET CALLING SAY ITS MOMENT IS AT HAND**

“Some analysts believe that if the technology takes off — which would require overcoming its unsexy moniker, Voice over Internet Protocol, or VoIP — it will replace the public telephone network that first took shape 125 years ago.

But Vonage appears more likely to become a partner than a foe of the big telecom companies. Vonage already is working with a regional phone carrier and a cable TV provider to supply the software and network support the big guys need to enter the game.”

**Brian Bergstein**  
*September 9, 2002*

**PLUGGED IN: U.S. CONSUMERS SEE DEALS IN INTERNET PHONE CALLING**

“The Vonage DigitalVoice service has drawn rave reviews from some 3,000 customers who have signed for the service.

“Feature for feature, we have everything that WorldCom is offering -- plus more,” Citron boasts.

Norm Bogen, an analyst at Cahners In-stat in Scottsdale, Arizona, agrees that the service offered by Vonage is highly competitive in both price and features with integrated local and long-distance packages offered by AT&T, WorldCom and Sprint.”

**Eric Auchard**  
*September 24, 2002*



“ The service could be attractive to users outside the US, particularly if they want to use a US contact number or they make a lot of calls to US numbers.

For me, the Vonage service offers substantial potential savings as well as the convenience of a single bill for local, long-distance and international calls.”

**Paul Taylor**  
December 24, 2002



“ Its basic plan costs \$40 a month. That's a deal, since the average U.S. household phone bill is \$53 a month, according to the Federal Communications Commission. Flat-rate national plans such as Vonage's are the future of consumer telecom services, says Glen Macdonald, a vice president at management consultants Adventis Corp.”

**Mike Angell**  
December 30, 2002

## THE WALL STREET JOURNAL

“ The use of broadband as an alternate phone service is taking hold world-wide. In the U.S., for example, companies such as Vonage Holding Corp., Edison, N.J., offer customers who have a broadband connection unlimited nationwide calling for about \$40 a month. But nowhere is it spreading as fast as in Asia, where broadband penetration is higher than anywhere else.”

**H. Asher Bolande**  
December 5, 2002



**Winners And Losers**

“ Assuming relaxation of UNE-P and AT&T abandoning its DSL assets (NorthPoint), we believe the clear losers are the long-distance companies such as AT&T, Sprint and MCI WorldCom. The winners are clearly the four RBOCs. The cable companies are also likely indirect winners, in that there would now be a higher price umbrella for voice, under which they can launch cable telephony more profitably. A company such as privately-held Vonage would also benefit given the difficulty of potentially competitive offerings such as The Neighborhood by MCI and AT&T's version thereof to be sustainable at current prices. ”

January 6, 2003  
 From "AT&T Writes Off DSL Investment"



**Guerilla IP Telephony**

“ At \$40 per month Vonage's system provides unlimited telephony to U.S. phone numbers, has better features than regular POTS, and works from places outside the U.S. So far, we had thought of IP telephony primarily as a way to save money, but going forward we also have to consider the feature advantages of IP telephony. Our message to telcos and cable operators alike is the same in this regard: Your voice offerings will be no stronger than the robustness and attractiveness of your data pipe, because that's where the voice will ride. This is particularly detrimental for the U.S. RBOCs, because they have no video subscriber base on which to fall back and with which to bundle.

The RBOC residential voice situation was a losing battle anyway, as a result of cellular and regular CBR cable telephony, but we believe "guerilla IP telephony" from Vonage and equivalent will be an incremental serious knife through the heart of circuit-switched residential voice. We believe the chief beneficiaries of IP telephony will be the CMTS vendors, including Terayon, Arris, ADC, Motorola, Juniper and Cisco.”

December 31, 2002  
 From "Broadband Tsunami"

## Needham

“However, we have some recent concerns regarding the future architectures of Voice Over IP (VOIP) that we believe are of longer-term concern to Arris. Specifically, we believe the architectural simplicity and attractive business model of privately held Vonage presents an attractive alternative to the cable TV industry as far as VOIP is concerned. If we assume that many of the cable TV operators choose to partner with Vonage for a swift nationwide VOIP rollout, we believe Arris’ longerterm future will substantially depend on its ability to be one of the top two or three DOCSIS 2.0 CMTS vendors. A Session Initiation Protocol (SIP) as used in the Vonage model in our opinion puts a greater responsibility on the cable operators to create the kind of symmetric bandwidth enabled by DOCSIS 2.0. On the other hand, a partnership with Vonage would also relieve the cable operators of most of the back-office needs to support switching and more advanced forms of Quality-Of-Service (QOS) enablers. It simply concentrates the cable operator’s responsibility into creating a strong symmetric data network, where DOCSIS 2.0 plays the central part, in our opinion.” ☞☞

January 13, 2003  
 From “Cable TV Technology Thoughts”

## CIBC

### Downgrading Telecom Services to Market Underweight

“Voice Over IP (VOIP) with SIP: The true significance of VOIP technology is not so much in that the network layer is based on the IP, but rather lies in its potential as an alternative to the existing circuit-switched PSTN infrastructure for the delivery of telephony and advanced multimedia communications services. The technology is really not an issue of protocols or technology as it is an issue of providing more compelling, higher value services more quickly and cost effectively. With broadband penetration increasing, and with wireless 911 coming, it may become practical for typical consumers to have a single broadband connection to the home and a wireless connection, and do away with the primary access line and any second lines. The benefit to enterprises is even more apparent in ordering a single high-capacity link versus ordering several single access lines. IP PBXs are slowly starting to be deployed, but like most disruptive technologies, the early adopters have been in the consumer and small business market.

Session Initiation Protocol (SIP) gives VOIP an added boost, allowing interactive user sessions that involve multimedia elements like video, voice and chat, and also makes it possible for users to initiate and receive communications and services from any location, and for networks to identify the users wherever they are. We have been testing out a VOIP service from Vonage ([www.vonage.com](http://www.vonage.com)) that allows us to have unlimited local and long-distance calls for \$39.99 per month over a cable or DSL connection, a Cisco ATA converter, and a conventional telephone. While 911 is not available, users can pick an area code of their choice regardless of location (i.e. Nashville resident can have a Beverly Hills area code). We have generally found the call quality to be excellent. ☞☞

December 11, 2002

**Goldman Sachs Global Telecom Weekly**

☞ VoIP – the long-term competitive threat. The intense focus on UNE-P recently has overshadowed what we see as the real long-term threat to the ILECs: VoIP using broadband facilities. Unlike UNE-P, VoIP does not depend on changeable regulation for its survival – it is real and it is permanent. This week we visited two VoIP (Voice over Internet Protocol) providers, Vonage and Net2Phone, to learn more about developments in this area. We came away more convinced than ever of the risks to the ILECs. The two companies both depend on broadband facilities, but have very different business models. Vonage directly markets to the retail customer, while Net2Phone creates a carrier-class outsourced solution for Tier II and III cable operators. VoIP service is not a distant pipe dream: it is here now. As broadband expands, and the DSL and cable modem trojan horses continue to invade households, we believe VoIP will start infiltrating the traditional voice market.

Quality and technology seem to be here. Proponents of VoIP claim that the technology and software is already available to offer voice quality on par with POTS. We believe this is generally true (we have used the services and they seem to work very well), but the real question – which we will be focusing on in the coming months – is can this quality level be achieved as consistently as customers will require? Over time, we have little doubt that this will be achievable. In the meantime, VoIP as a second-line alternative is a big opportunity that is clearly available. In addition, as a second-line alternative, the absence of independent powering is less of an issue when the service is offered through a cable modem.

Rollout time frame varies. Net2Phone's strategy depends on cable company schedules for delivering voice in the market. Every indication is that the cable industry is moving cautiously and slowly in this direction. We think cable companies have the benefit of offering voice service as it makes sense to their business and financial needs – they are not compelled to do it by competition. Thus, we do not expect significant cable activity in this area until at earliest 2004. The Vonage service however, can be launched, broadly, almost immediately, simply depending on the establishment of retail relationships. The service sits on the Internet as an application, and broadband customers only need to connect a small Cisco analog-to-digital converter box between their phone and cable modem to get started. Basically, Vonage can scale its business by the number of retail outlets it arranges, and its own internal capabilities.

Customer acquisition, the Achilles Heel of most competitors. Most competitors to the Bells have failed because of distribution problems. Those that have succeeded have good distribution, i.e. UNE-P competitors, wireless competitors. The cable industry, in our view, has the distribution capability that will make it a fierce, long-term, and permanent competitor. Even the Vonage direct retail approach seems to have the necessary ingredients, assuming it chooses good retail partners. It will be the quality of these retail relationships and the reliability of the service that will determine the success of the effort. Initially, we expect strong growth, but little financial impact on the ILECs. Eventually, the combination of the carrier strategy of the cable industry and a Net2Phone, with a retail strategy of a Vonage, will likely have a much more pronounced effect. ☛

January 10, 2003



#### Daiwa Institute of Research, European wireline: 2003 and beyond

“New Jersey-based Vonage (www.vonage.com) offers flat-rate VoIP call packages ranging in price from \$25.99 to \$39.99, which include vertical services such as call waiting, voicemail, call forwarding, call transfer, caller ID, and caller ID block, for which the RBOCs frequently charge. All calls to other Vonage users are free, which adds the crucial element of peer-pressure and viral marketing which we believe may be a key element of such services. The \$39.99 premium package offers unlimited local and long-distance calls, while the more basic package covers local calls with 500 long distance minutes included. This may not appear overly generous, except for the important fact that users have the ability to designate a home area code. Thus, a user living in Los Angeles, who normally makes a large number of calls to New York, can designate himself a 212 area code, thus shifting a substantial portion of his long distance calling minutes into the unlimited local bundle!

We assume that this model would also extend to cases such as US ex-patriots who maintain a US address and phone number. The appeal of making unlimited VoIP calls from London to New York as part of a local bundle must surely be overwhelming for some of the heavier users of conventional international call services. The company clarified for us that, in fact, all the prospective user needs is a US shipping address and a valid credit card in order to initiate the process. The legality of such an arbitrage may conceivably be open to question depending on the country, but we think it would be devilishly hard even to identify such cases without triggering charges of invasion of privacy. The proof of the appeal of the product appears to be in the sharp spike in traffic, as seen in the chart below. **Since DigitalVoice was launched in March 2002, the service has signed up 10,000 users and has completed over 7m calls. Usage is clearly accelerating, as evidenced by the fact that it took 152 days to generate the first 1m calls, but only 28 days to generate the most recent 2m.**”

February 7, 2003

## FCC Chairman Powell in his remarks to the Senate Committee on Commerce, Science and Transportation

“ Soon after I began my tenure as Chairman, I laid out the Commission's agenda under my leadership. The theme that binds the agenda is "Digital Migration." That is, we are at a critical crossroad in communications in which technology is driving us to cross over from the predominately analog realm—with its matured infrastructure, traditional services, and long-practiced regulatory regime—to the digital world of the modern era, one that demands more advanced architecture, dynamic and innovative applications, and a more enlightened and flexible regulatory environment.

In addition, broadband connections have also put pressure on wireline networks as many consumers that migrate to broadband for their Internet services have dropped their second telephone lines (which were used for dial-up Internet services). Moreover, 2002 saw the introduction of reliable Internet telephony services through a broadband connection. Companies such as Vonage are providing consumers with a direct substitute to their traditional wireline phones. These various sources of competition have contributed to the first declines in total access lines for the four major ILECs since 1933 (the only previous year where access lines declined). ”

January 14, 2003



**WNBC-TV New York**

“Vonage internet calling offers big savings over Verizon.”



**WUSA-TV Washington, DC**

“Vonage helps couple save on business and residential calling.”



**WPLG-TV Miami**

“Vonage offers affordable calling to Miami residents.”



**KTVK-TV Phoenix**

“New Vonage telephone service saves residents big money.”



**WTVF-TV Nashville**

“Vonage DigitalVoice is a new way to save money on telephone calls.”



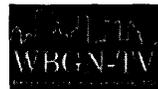
**WFAA-TV Dallas**

Product Premieres: Vonage



**WFAA-TV Dallas**

Product Premieres: Vonage



**WBGN-TV Pittsburgh**

New Internet phone service (Vonage) offers unlimited calling \$40.

FROST & SULLIVAN GROWTH CONSULTING

## 2002 Entrepreneurial Company Market Engineering Award

“ Vonage, based in Edison, New Jersey, has emerged as a service provider that offers broadband-based voice solutions. Vonage currently markets solutions to end users through its DigitalVoice services, offering a number of features that are available over class 5 switches, including voice mail, caller identification, and call waiting. These features are essential for a cable MSO to have in order to compete effectively with a similar solution from the incumbent provider.

Without a doubt, these features are important to a successful, competitive telephony offering. However, it is just as important to note that a competitive price, especially compared to the incumbent service provider, will be important for Vonage to gain market share. Vonage's DigitalVoice service offers unlimited local and long distance calling, along with call waiting, caller ID, and voice mail, for \$39.99 per month. Frost & Sullivan believes that this is very competitive with a consumer's combined long distance and local services that often include the enhanced features that Vonage is offering.”



## 2002 Editors Choice Award 2002 Product of the Year Award

“ The fact that DigitalVoice utilizes Internet telephony “yet doesn't require a PC and works with traditional analog phones, including cordless phones “ is certainly a plus. Its ability to get through NAT firewalls and support for the flexible SIP standard make this a great product that will not soon be outdated. TMC Labs believes that Vonage's DigitalVoice is a great solution for consumers and even perhaps SOHO environments that currently have phone bills exceeding \$40 a month.

<p>RATINGS (0-5)                  Installation: 5                  Documentation: 4.75                  Features: 4.5                  GUI: 4.75                  Overall: A-</p>
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VONAGE  
**digitalvoice**



The central image features three product boxes on the left, a computer monitor in the middle, and a black telephone handset on the right. The monitor displays the Vonage website interface with a call log table and a 'Refer-A-Friend' promotion.

Date	Time	From	To	Duration
1/20/01	5:30 PM	15555151212	15555151515	15 min
1/20/01	4:51 PM	15555151212	15555151515	2 min
1/20/01	10:55 AM	15555151212	15555151515	2 min
1/19/01	4:32 PM	15555151212	15555151515	6 min
1/20/01	10:55 AM	15555151212	15555151515	2 min
1/18/01	4:22 PM	15555151212	15555151515	2 min
1/18/01	10:55 AM	15555151212	15555151515	2 min
1/18/01	4:32 PM	15555151212	15555151515	6 min

**Refer-A-Friend Save \$40**

Service Adjustments:

- service announcement
- service announcement number five
- service announcement number three

Call Forwarding:

- Forward to Number: +1 555 555 5555
- Forward to Number: +1 555 555 5555
- Forward to Number: +1 555 555 5555

February 26, 2003

For further information from Vonage, please contact:  
Vonage at +1 (732) 528-2600 or publicrelations@vonage.com.