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# Gas Prices Finally Got to Me



# USA Telecomm Statistics

	<u>Year</u>	<u>Numbers in Service</u>	<u>Revenue</u>
■ Wired Phones	2000	167 Million	\$228 Billion
	2004	132 Million	\$197 Billion
■ Cell Phones	2000	109 Million	\$56 Billion
	2004	182 Million	\$102 Billion
■ Paging	2000	36 Million (estimated)	
	2004	8.5 Million (estimated)	

Article by USA Today 9 May 2005, CTIA statistics, USA Mobility reports, PCIA CALEA Report

# Shift Happens

Quote from Jeff Pulver, VON Magazine publisher.

# 9 Steps in the Evolution of Paging

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1. Voice codes broadcast to a voice only, no squelch, vacuum tube receiver.
2. Beep with voice message from a manual operator.
3. Automatic Direct Dial beep only and Tone and Voice pager.
4. Generic Voice Announcement to Callers.
5. Custom Voice Announcement to Callers.
6. Voice Message recorded from caller to beep pager (Voice Mail)
7. Numeric messages with voice message recorded from callers.
8. Alphanumeric messages and Voice Mail.
9. Voice over Internet Protocol (VoIP) services.

# VoIP and Paging Carriers

*Presented by  
Vic Jackson*

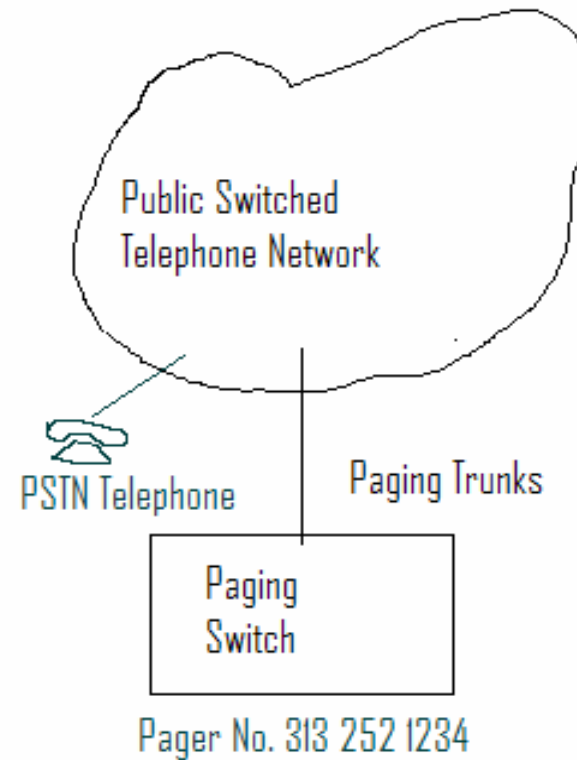


# Voice over Internet Protocol

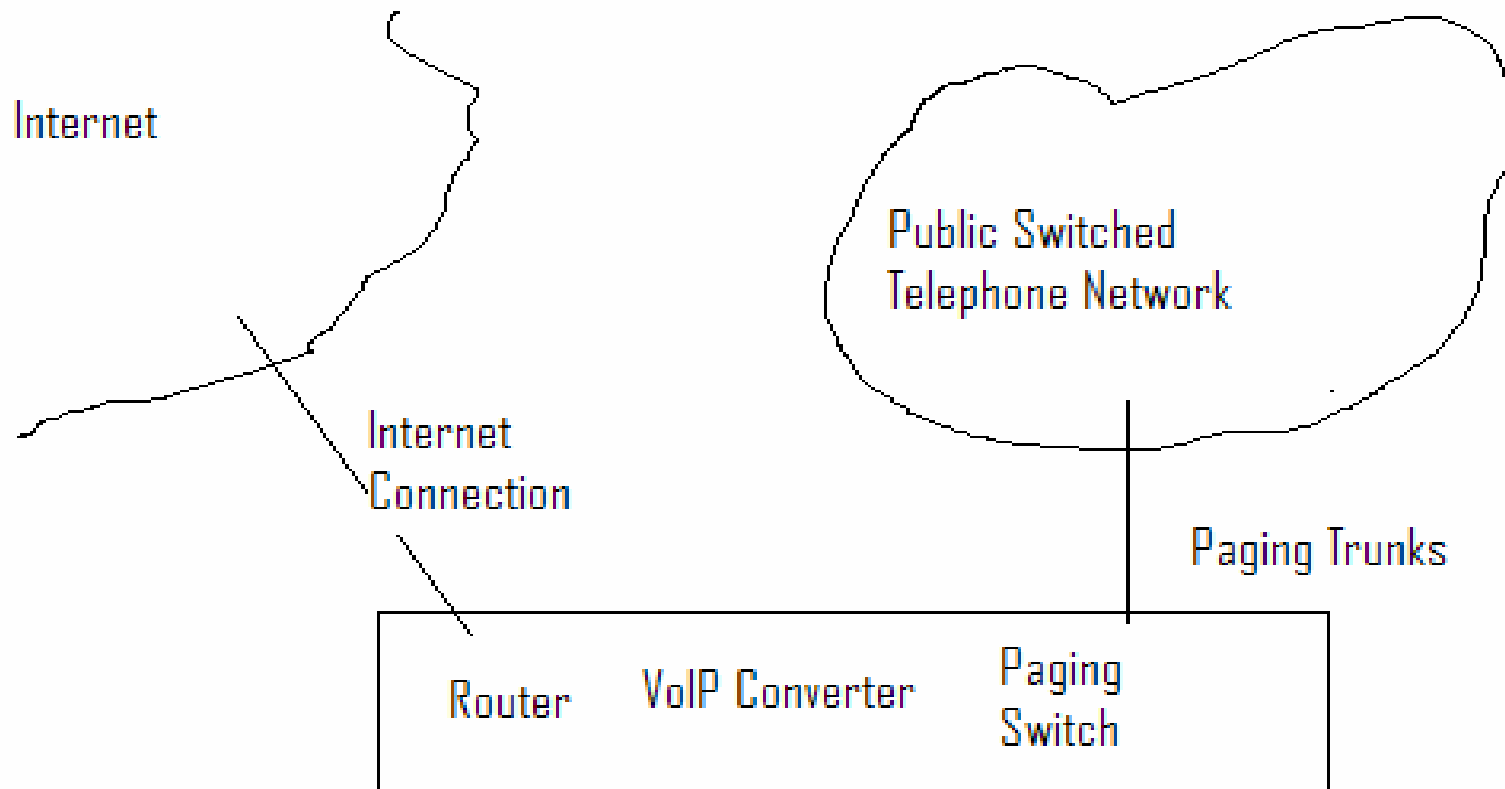
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- **What is Voice over Internet Protocol (VoIP)?**
- **VoIP allows voice messages to be sent over packet switched networks such as the Internet**
- **How Does it Work?**
- **At the send end, Voice messages are turned into data packets and transmitted over a packet data network.**
- **At the receiving end, the data packets are properly aligned and turned into voice messages.**

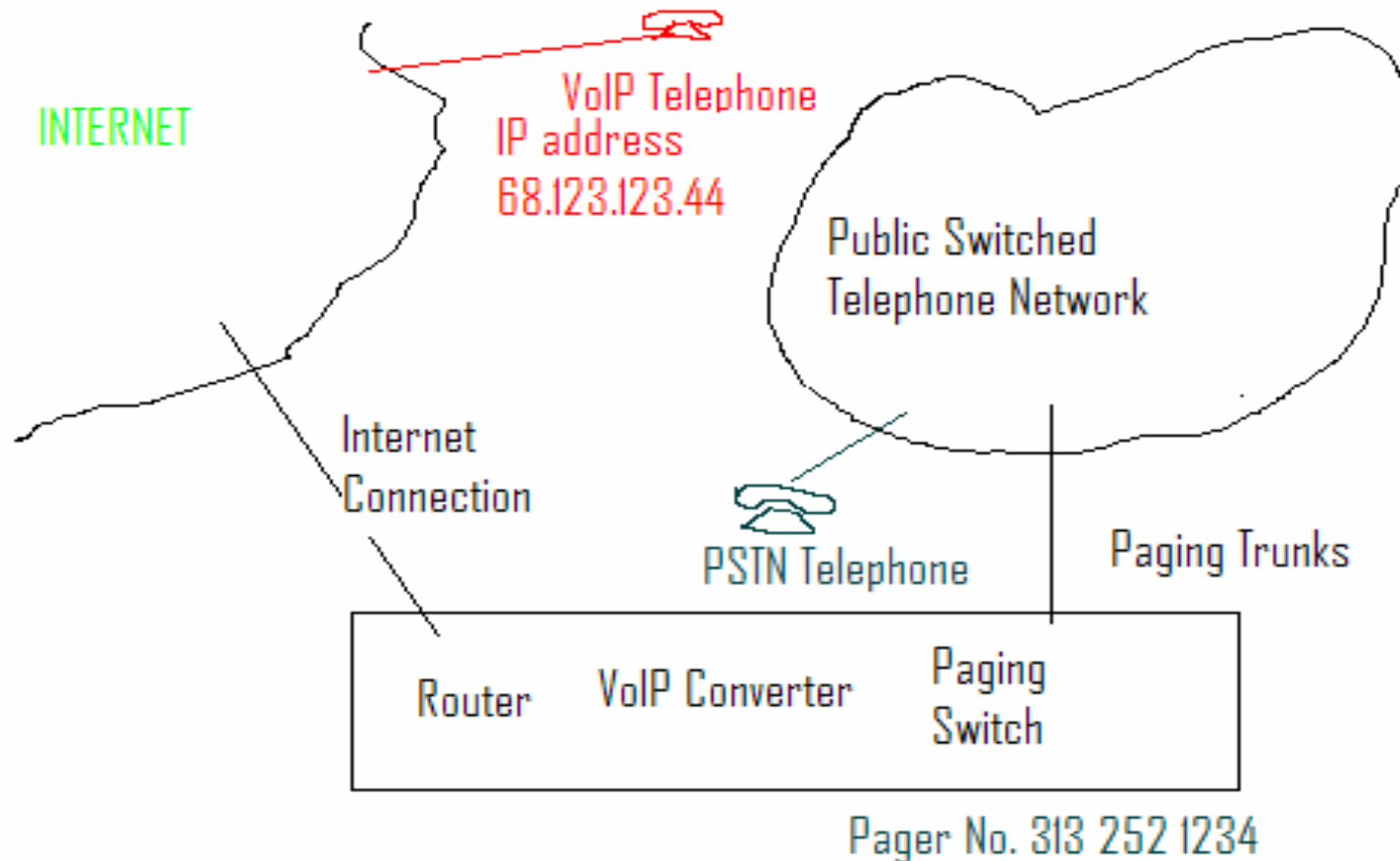
# Basic Paging Interconnection



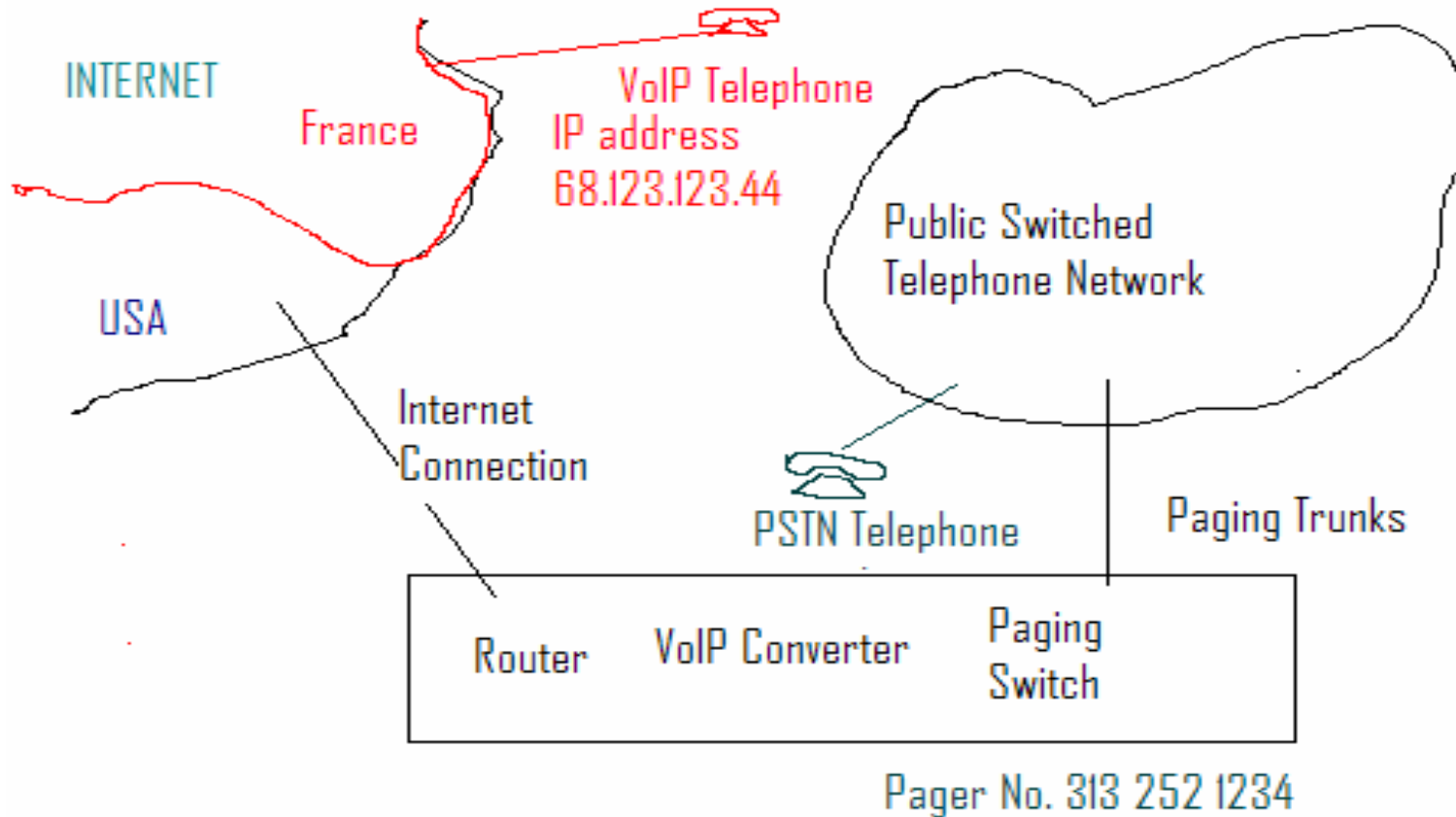
# Paging Switch PSTN to VoIP Diagram



# PSTN to VoIP Calling Diagram



# PSTN to VoIP Calling Diagram



# VoIP Telephone Subscribers

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- Estimated USA VoIP subscribers.

■ 2003	2,785,000
■ 2004	4,131,000
■ 2005	7,850,000
■ 2006	12,100,000
■ 2007	15,600,000
■ 2008	18,400,000

Merrill Lynch, Everything over IP, Page 20, 3/12/04

Does not include computer to computer users such as Skype.

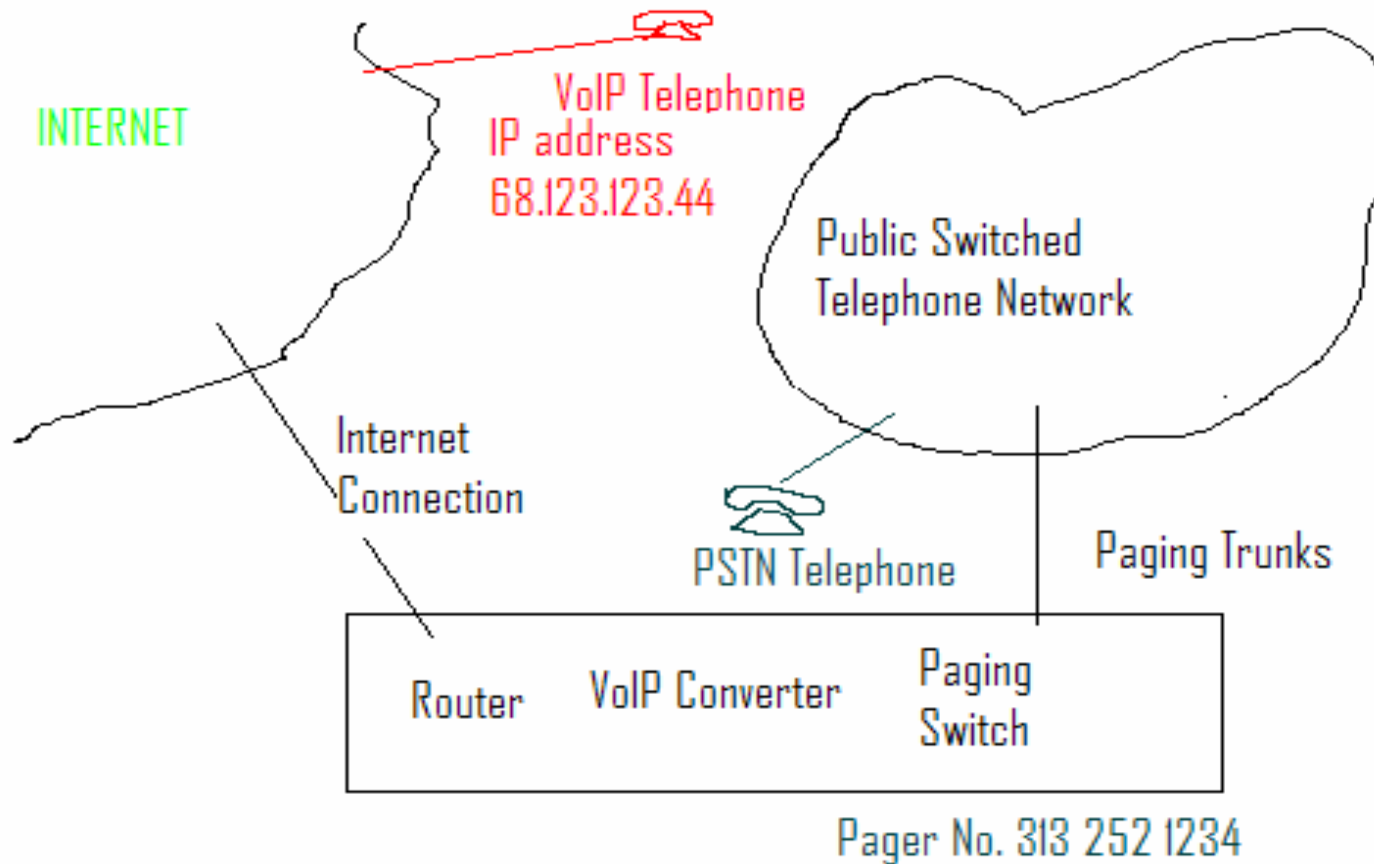
# Revenue Potential in VoIP for Paging Carriers

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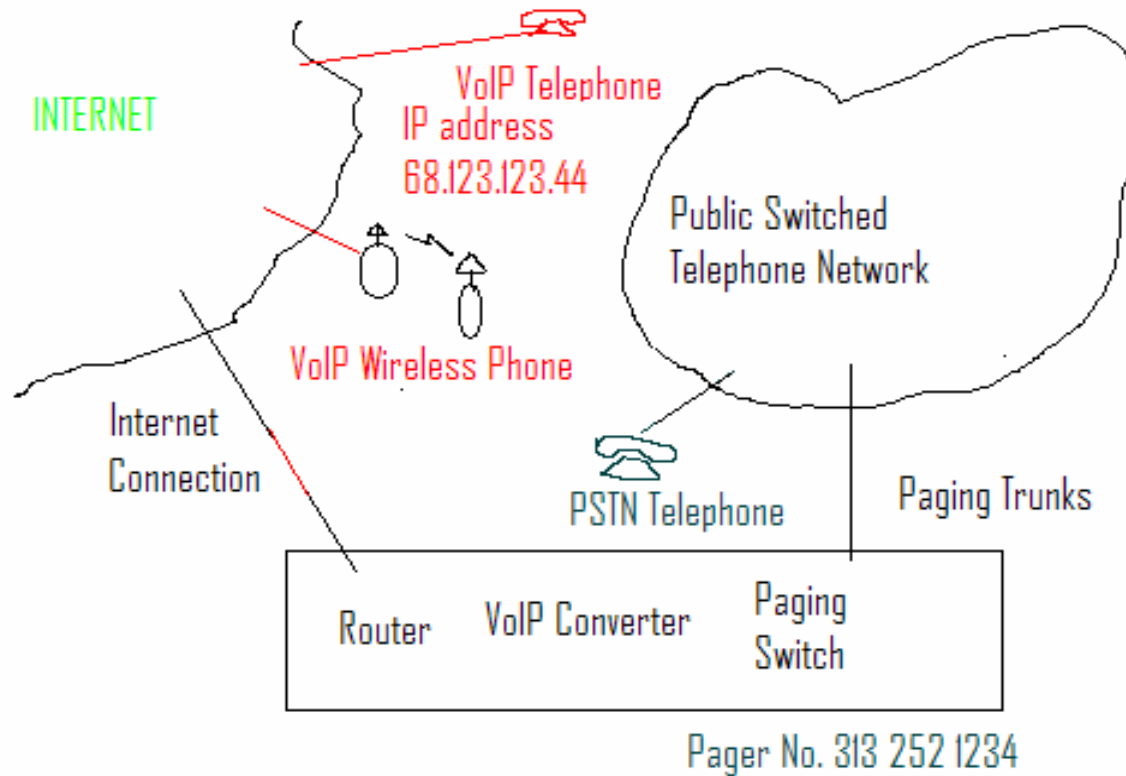
## Some Feasible VoIP Businesses

- Telephone numbers for VoIP access.
- PSTN access for resellers of VoIP services.
- VoIP Services
  - Long Distance Calling - The World is “Local”
  - FX services “Local” calling to any specified location.
  - Private line services Point to Point to anywhere.
- VoIP Equipment Sales and Service.

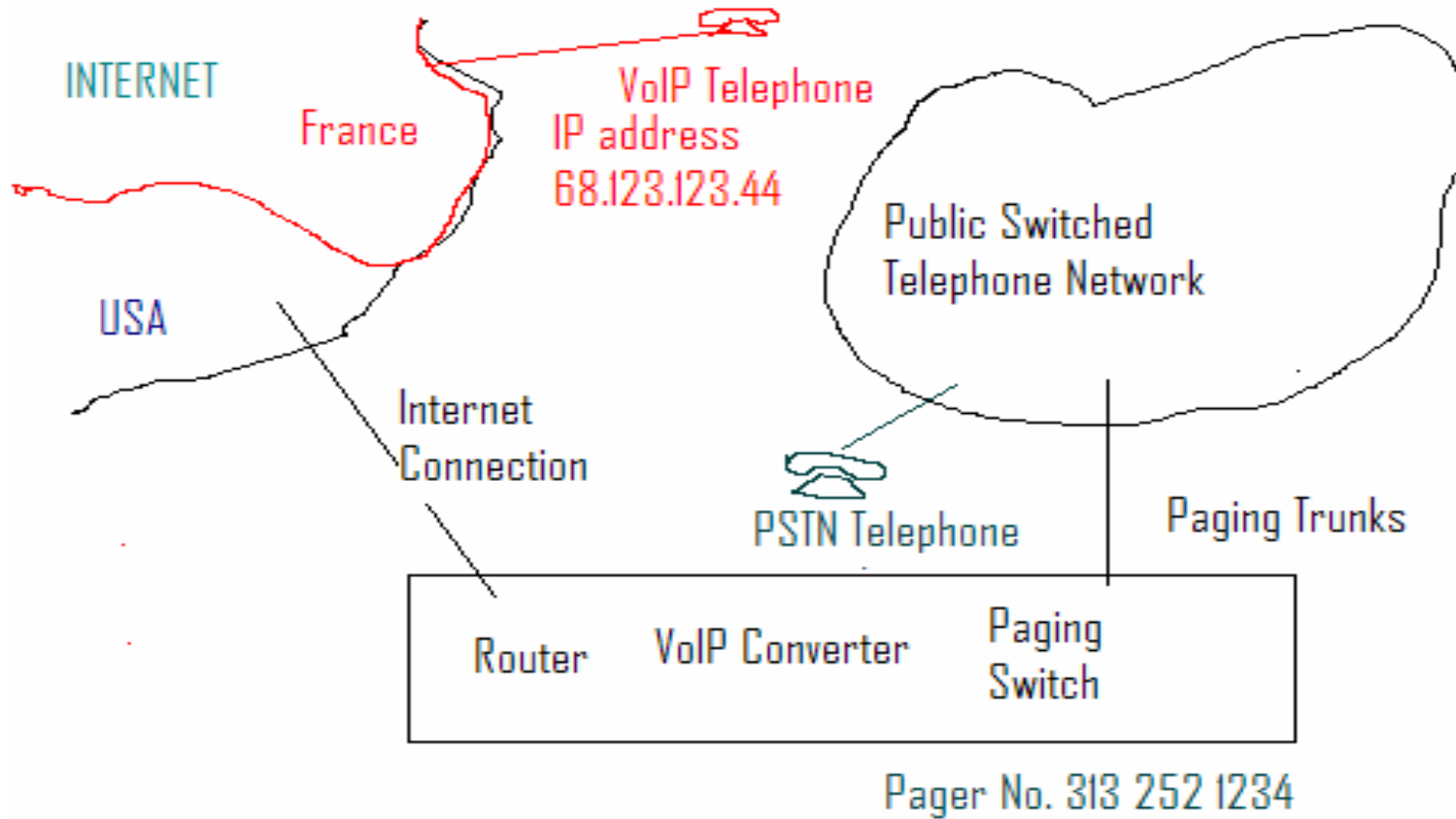
# PSTN to VoIP Calling Diagram



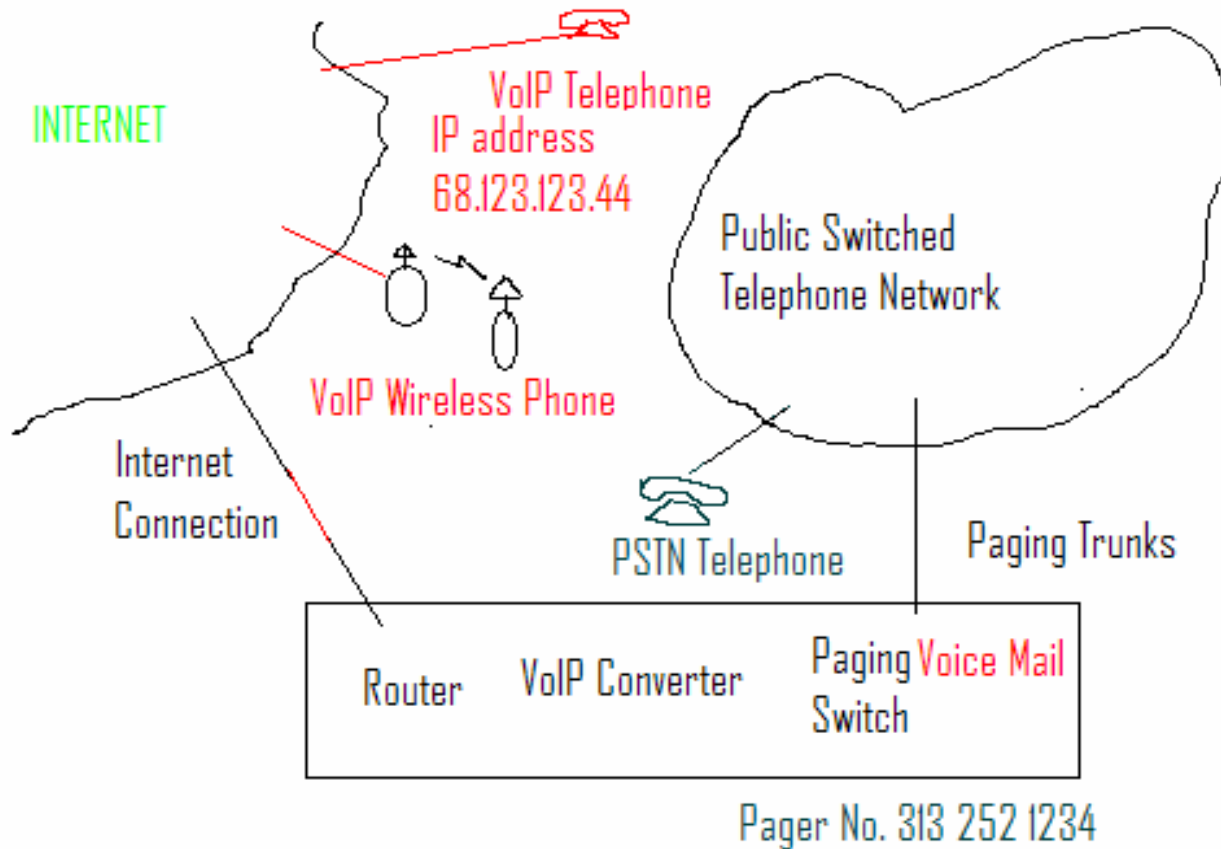
# PSTN to Wireless VoIP



# PSTN to VoIP Calling Diagram



# Paging, VoIP and Voice Mail



# Equipment/Services Needed for VoIP

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- Marketing Plan
- SS7 Signaling (optional)
- IP to Analog/Digital Switch
- Routers
- Internet Gateway
- VoIP to PSTN call delivery arrangement (optional)
- Billing System

# FCC Rules and Potential Regulations for VoIP Services

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- No current prohibitions on using “paging” numbers for VoIP services. (Watch out for ICA provisions!)
- It isn't the 2 way calling, it's the geographic calling scope that is the regulatory problem.
- Far less taxes
- Future Potential Regulations and Taxes
- Number Pooling and Number Portability
- 3 Recent FCC Orders concerning VoIP Services

# FCC Decree on VoIP Blocking

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- FCC Order made with respect to the intentional blocking of ports used for Voice over Internet Protocol (“VoIP”) applications, thereby affecting customers’ ability to use VoIP through one or more VoIP service providers.
- FCC DA 05-543 (released 3 March 2005) Consent Decree, “\$15,000 payment”
- Madison River Telephone Company, LLC, Located in the Gulf Coast, the Mid-Atlantic, and Midwestern regions of the United States, Ill, GA, NC, FL. TX, AL, LA

# FCC Notice on VoIP Services

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- FCC Issues Notice of Proposed Rulemaking on Voice Over Internet Services, (FCC 04-28, 2/12/2004)
- FCC Promises to Minimize Regulation of Internet VoIP Services.
- Cautions States to Minimize Regulation and Taxes/Fees on VoIP.
- Access Charges May or May not be Applied to VoIP.
- Concerns over VoIP Calls to E911 (FCC Order 5/19/05)
- Concerns over Universal Service Support/Charges for VoIP (No Order to date)

# FCC Orders Enhanced 911 Capability for VoIP Services

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- By Order dated May 19, 2005, (FCC 05-116) the FCC requires that certain providers of VoIP phone service supply enhanced 911 (E911) emergency calling capabilities to their customers as a mandatory feature of the service.
- Interconnected VoIP providers must deliver all 911 calls to the customer's local emergency operator.
- Interconnected VoIP providers must provide emergency operators with the call back number and location information of their customers (i.e., E911)
- The incumbent LECs are required to provide access to their E911 networks to any requesting telecommunications carrier.

# VoIP Interesting Tidbits

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- Vonage uses 15 CLEC's for IP to PSTN traffic in the USA.

Source: John Rego, Vonage CFO

- Speaking about Voice over Internet Protocol;

“The processing power, the CLEC's the algorithms, the regulations and the bandwidth to make it all possible have only come together recently to make it all possible.”

Alex Goldman, ISP Planet managing editor 10/18/04

# USA Telephone Tax Notes

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- 160 local governments in California tax cell phones.
  - 10 % tax in Los Angeles
  - 7.5 % tax in San Francisco
- Land line phone taxes decreased from 2.4 million to 1.75 million last year in Independence MO.
  
- Article by USA Today 9 May 2005

# Do they need a pager or what?

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# Paging, Alive and Well in America

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- Brad Dye Newsletter
- USA Mobility, Inc. (Nasdaq: USMO)
- Many regional and statewide paging carriers
- Traditional Paging markets since 1960's.
  - Health Services
  - Government
  - Manufacturing
  - Transportation
  - Education and Social Services

Brad Dye Newsletter 5/13/05 from USA Mobility

## The Last Word

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- VoIP has great potential for new revenues.
- Paging Carriers must “Shift” their business strategy with changes in technology and regulations to be successful.
- In 1899, Charles Duell, commissioner of the US Patent Office, said “Everything that can be invented has been invented.”
- “limiting VoIP to a service which allows one to save on telephone calls is misunderstanding the present and the future.”
- “VoIP and the Internet are a huge opportunity for small companies, in the fact that they allow a one man company to enter the market and compete with the giants.”

Patrizia on Blogspot.com May 2005

- There are likely many revenue generating ideas for VoIP and Paging. The world awaits your ideas!

## Many Thanks

to AAPC for inviting me here today,  
to Brad Dye and his Wireless Messaging Newsletter  
and to all of you for your interest and enthusiasm .



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*Presented by  
Vic Jackson*

