

Exhibit 1

Exhibit 1

Diminishing Electronic Surveillance Capabilities in the Communications Age

Drug Enforcement
Administration



Conducting lawful intercept in the past was straightforward...



Target phone



Single POTS carrier

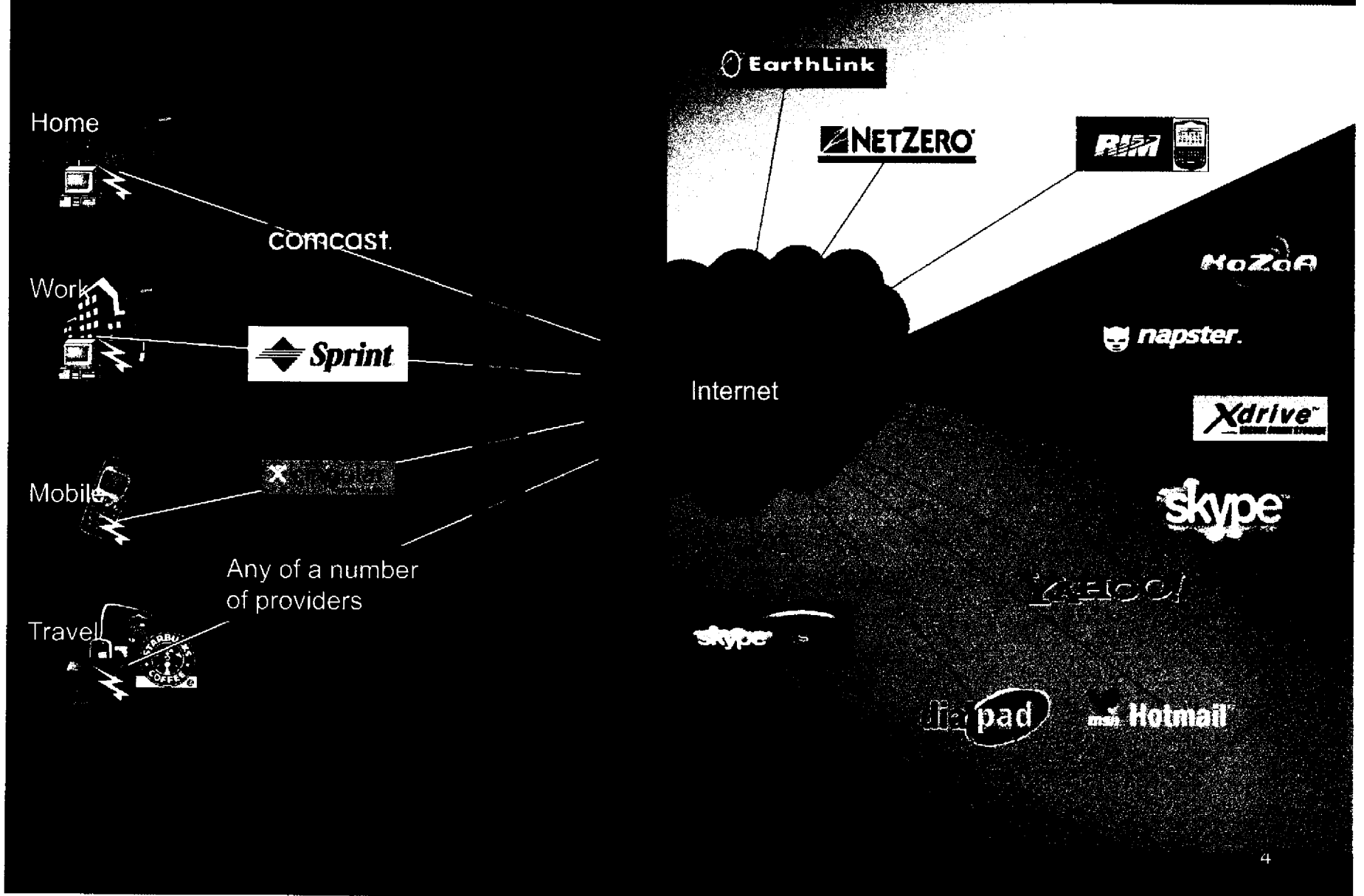


Intercepting Agency

Local loop intercept
Single carrier

Simple access and understanding
Inexpensive

MULTIPLE ACCESS METHODS TO A VARIETY OF SERVICES

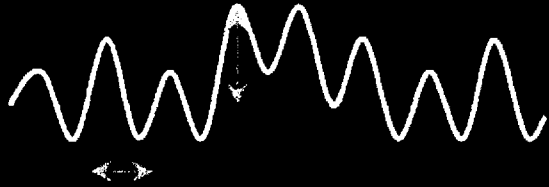


VoIP

BASIC VOICE CHARACTERISTICS

- The human voice is a continuous acoustical waveform
- Expressed as an oscillating sine wave (see below)
- Components

Frequency (number of cycles per second)
Amplitude

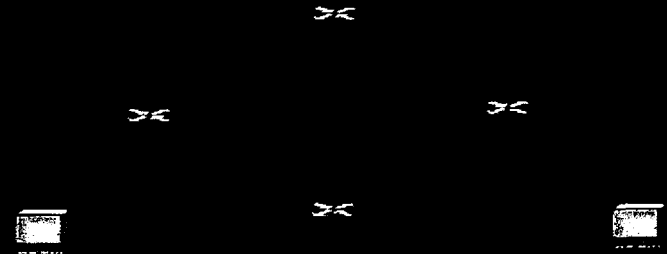


ANALOG TO DIGITAL CONVERSION

WHAT IS A PACKET?

- A packet consists of two basic components:
 - a "payload" of digital information to be transmitted
 - header that contains control information needed to transmit the information across the network

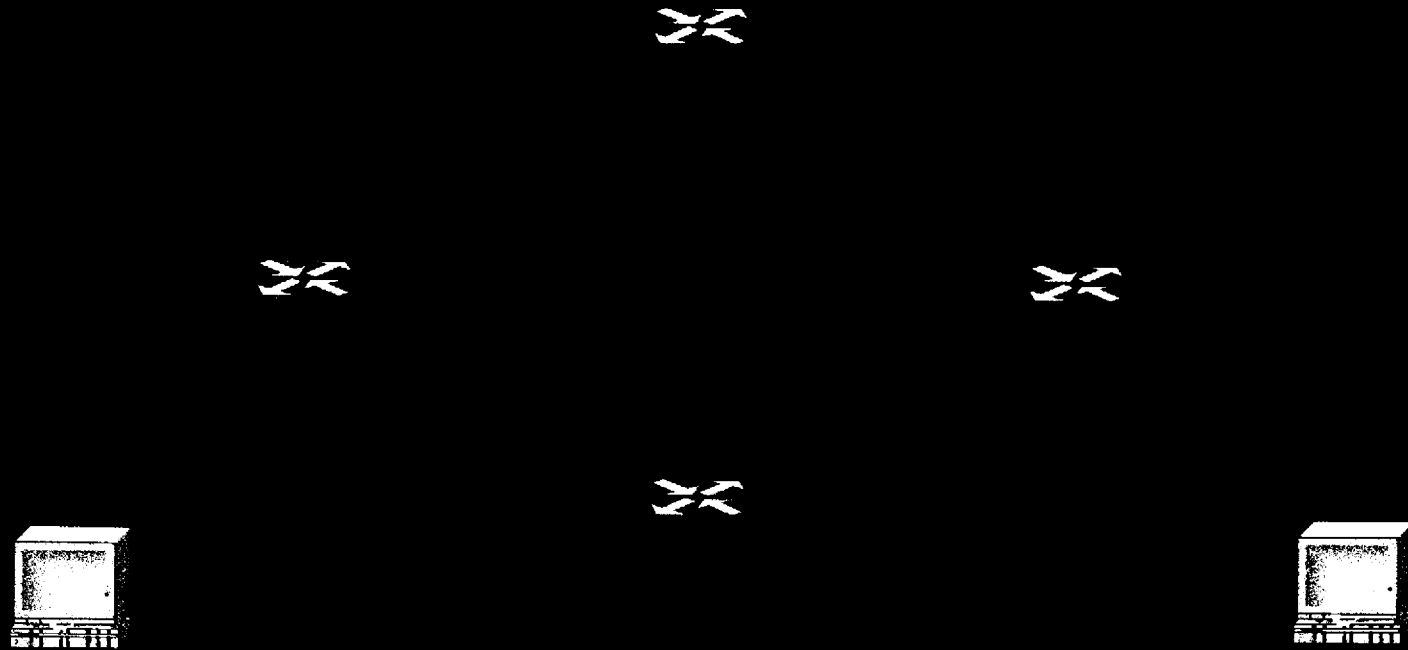
CONNECTIONLESS PACKET ROUTING



Mr. Watson, come here!

Mr. Watson, come here!

CONNECTIONLESS PACKET ROUTING



Mr. Watson come here!

Mr. Watson come here!

Conducting lawful intercept today is highly complex

Home

Work

On travel



Intercepting Agency



Multiple carriers and applications

(b)(5), (b)(7)(E)

Technology is complex and varied

Unregulated services

Multiple protocols

Expensive

Data Retention

- ▮ Where are the records?
- ▮ What are the records?
- ▮ How long are the kept?

Diminishing Electronic Surveillance Capabilities in the Communications Age

Drug Enforcement Administration

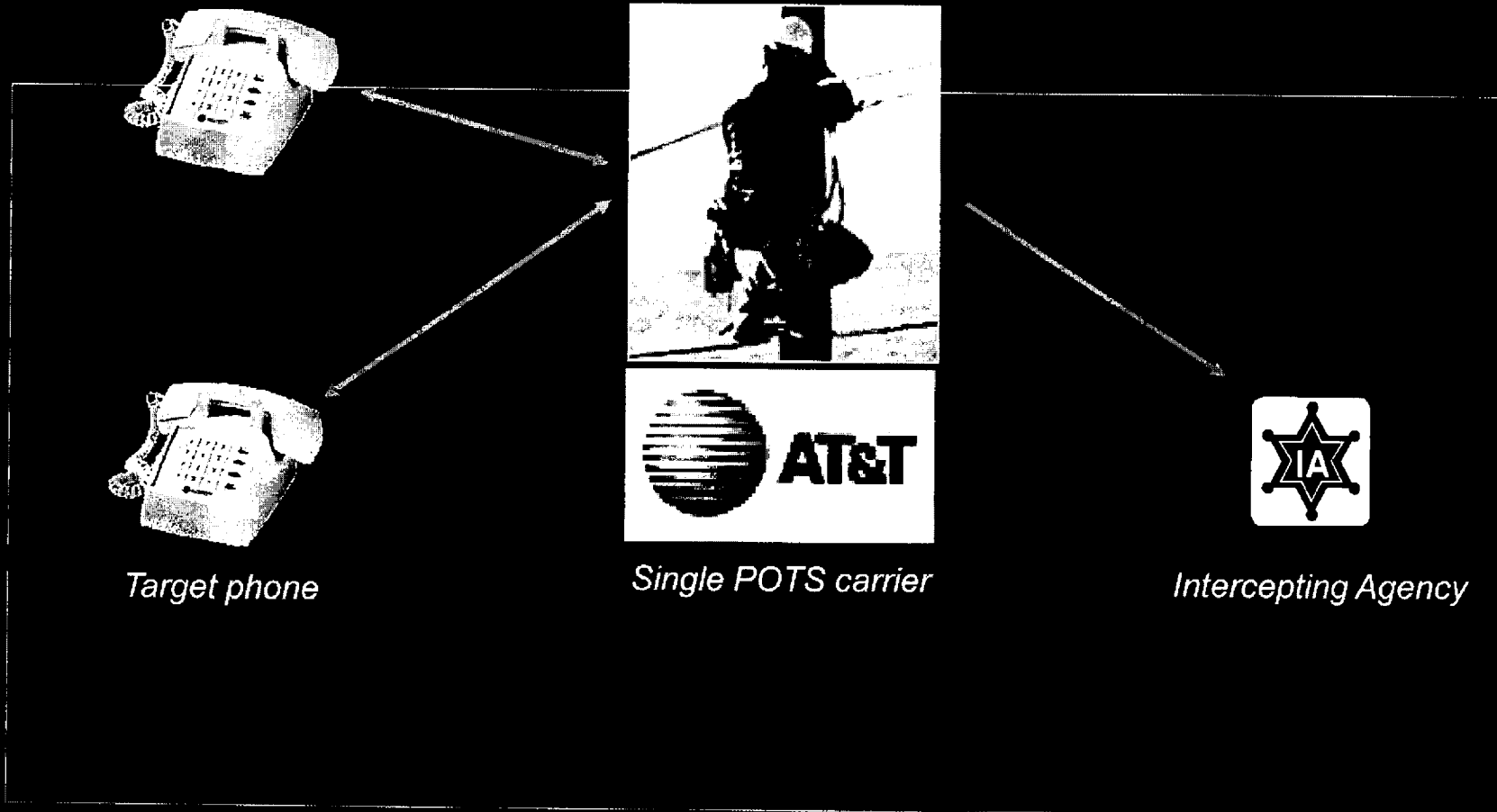




Law Enforcement's Need to Preserve Lawful Intercept Capabilities

*Discussion Document
January 2009*

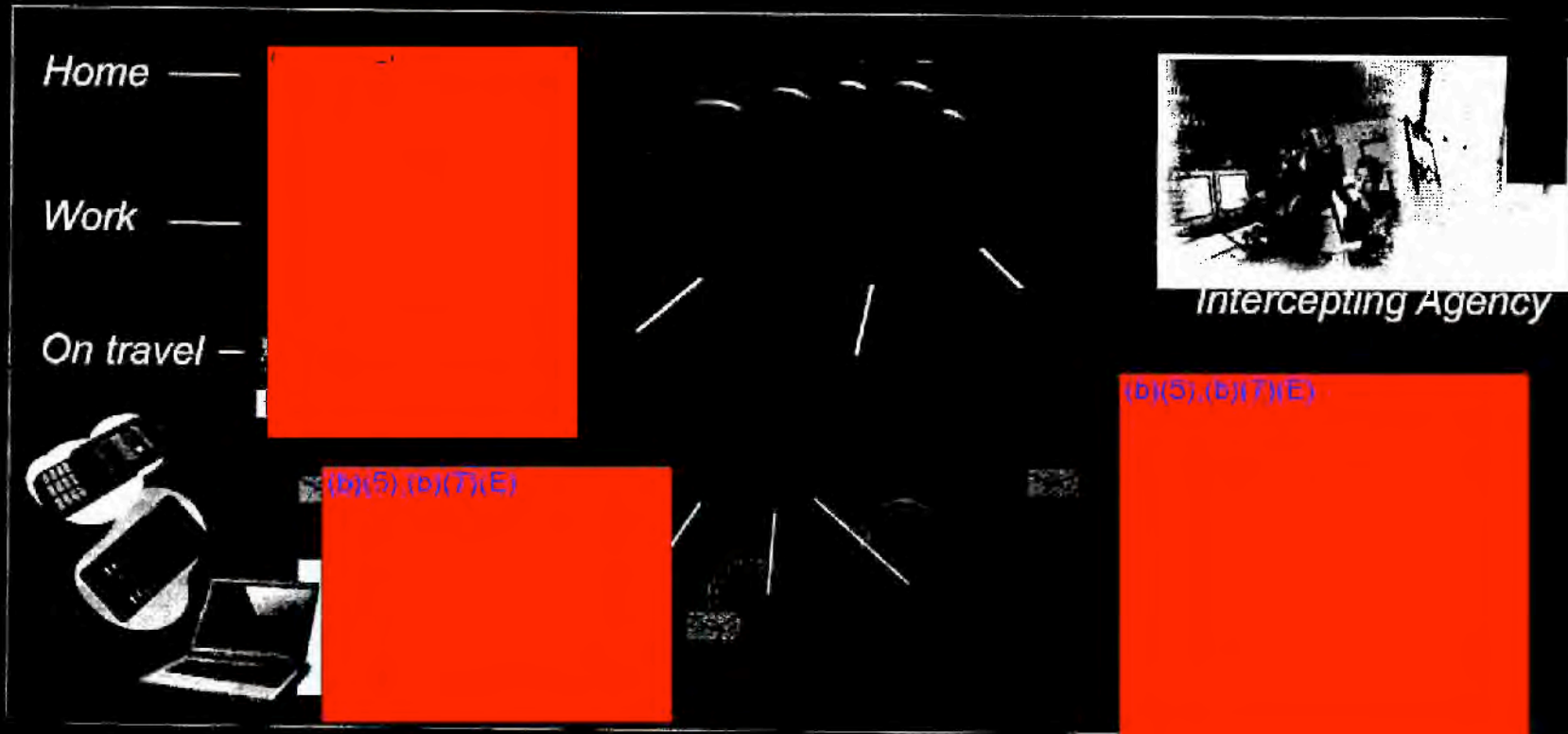
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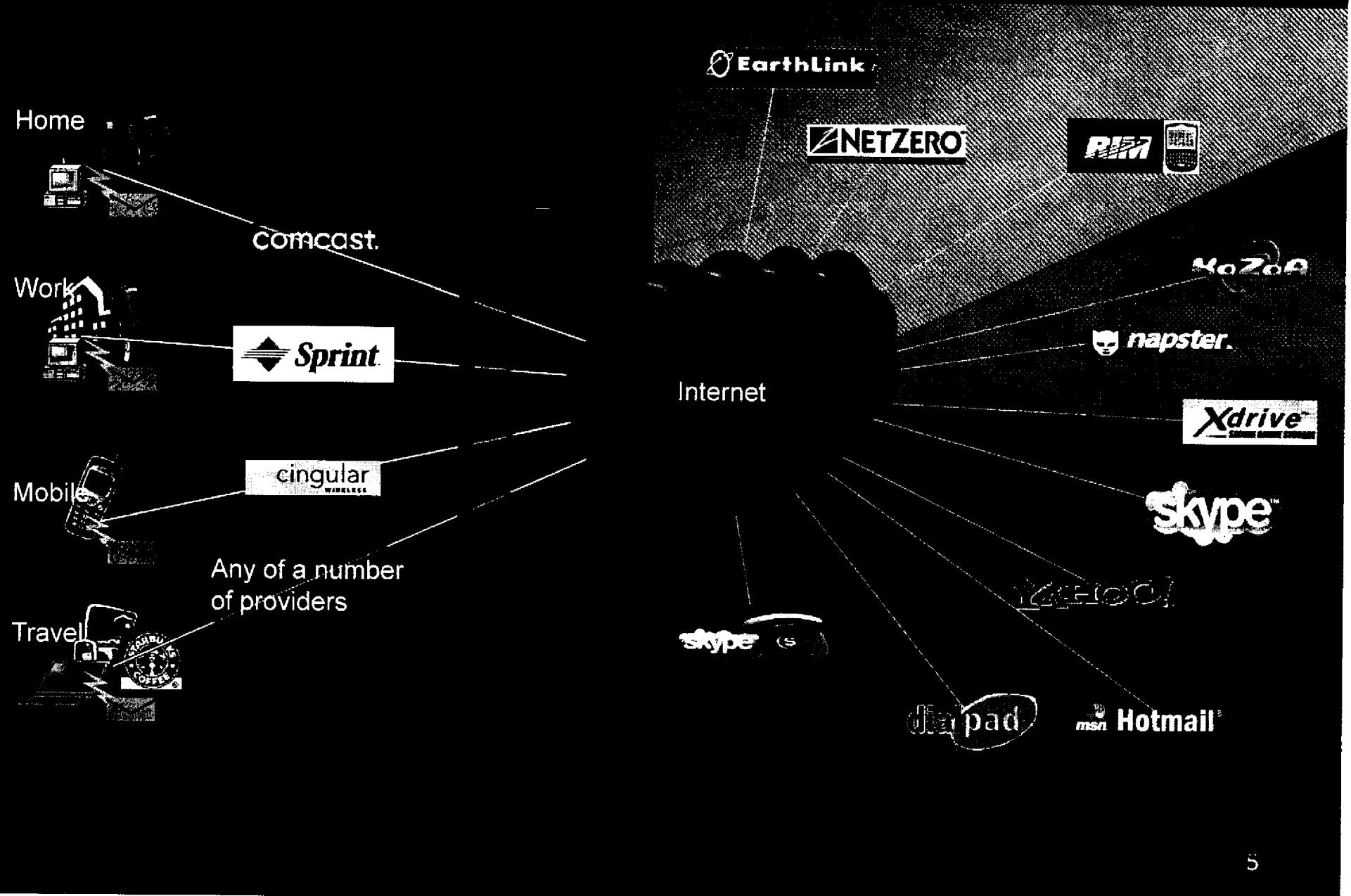
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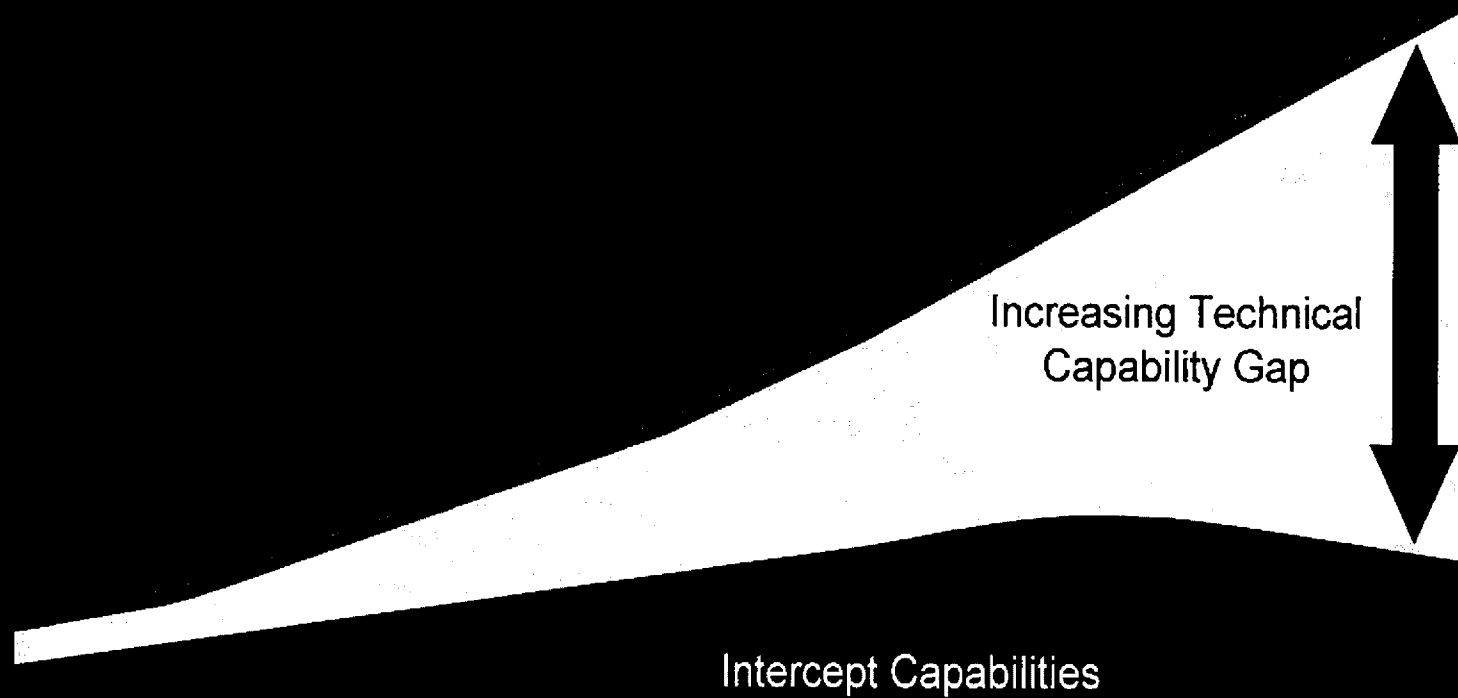
Multiple protocols

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MULTIPLE ACCESS METHODS TO A VARIETY OF SERVICES



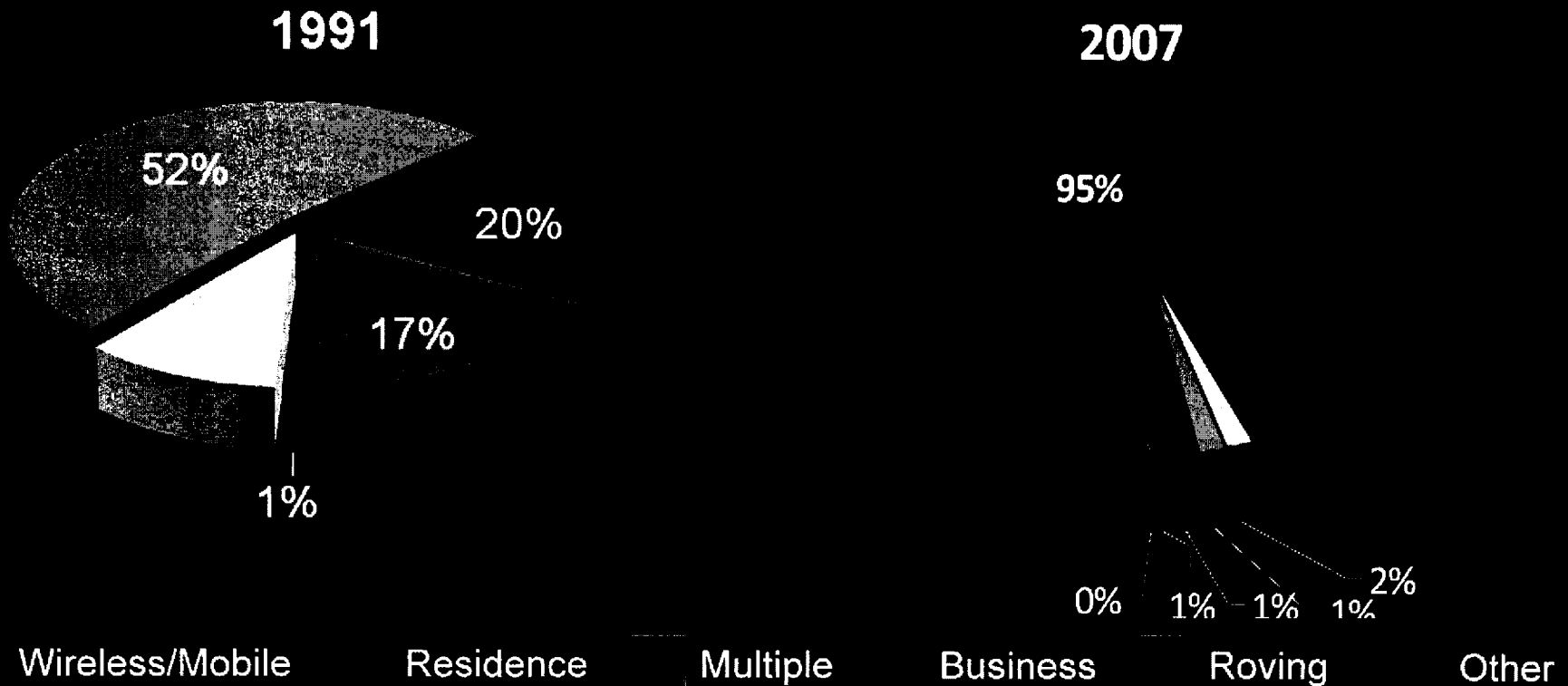
Law enforcement's lawful intercept capabilities are eroding by the day, creating a "Lawful Intercept Capability Gap." All Law Enforcement Agencies are on the road to "Going Dark"



ELECTRONIC SURVEILLANCE TRENDS - WHERE TITLE III WIRETAP AUTHORIZATIONS OCCUR

Shift in location of wiretaps

Wireless / mobile technologies are the preferred medium of communications for targets



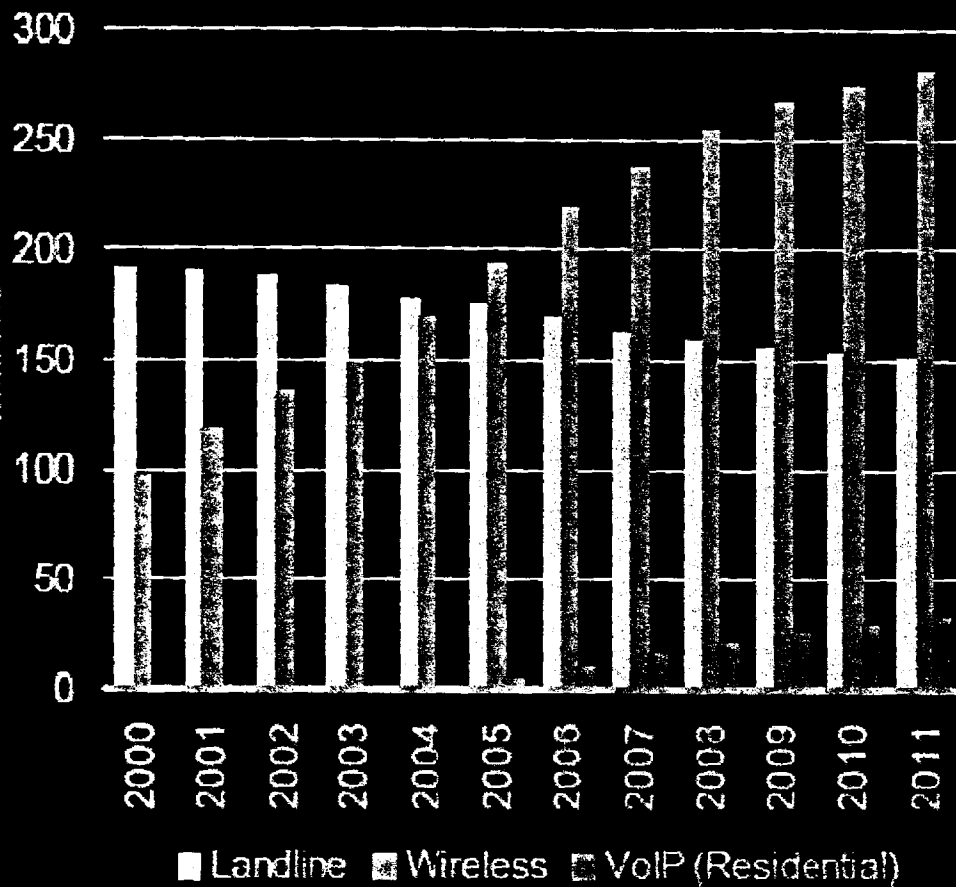
Source: 2007 Wiretap Report, Administrative Office of the United States Courts

Industry Trends in Wireless Data Services

- ◆ 2008 Revenues for Verizon Wireless Data Services (\$10.7 billion) represents a 44 percent increase over 2007.
- ◆ More than 65 percent (45.5 Million) of its retail customers now own 3G broadband-capable devices. During the fourth quarter of 2008, Verizon Wireless customers sent or received more than 90 billion text messages, more than double the volume of texts sent in the same period one year earlier.
- ◆ In Q4-2008, AT&T reported a 57.5 percent increase in wireless data revenues over Q4-2007. The Data Growth reflects increases in the adoption of smart phones and 3G wireless devices.

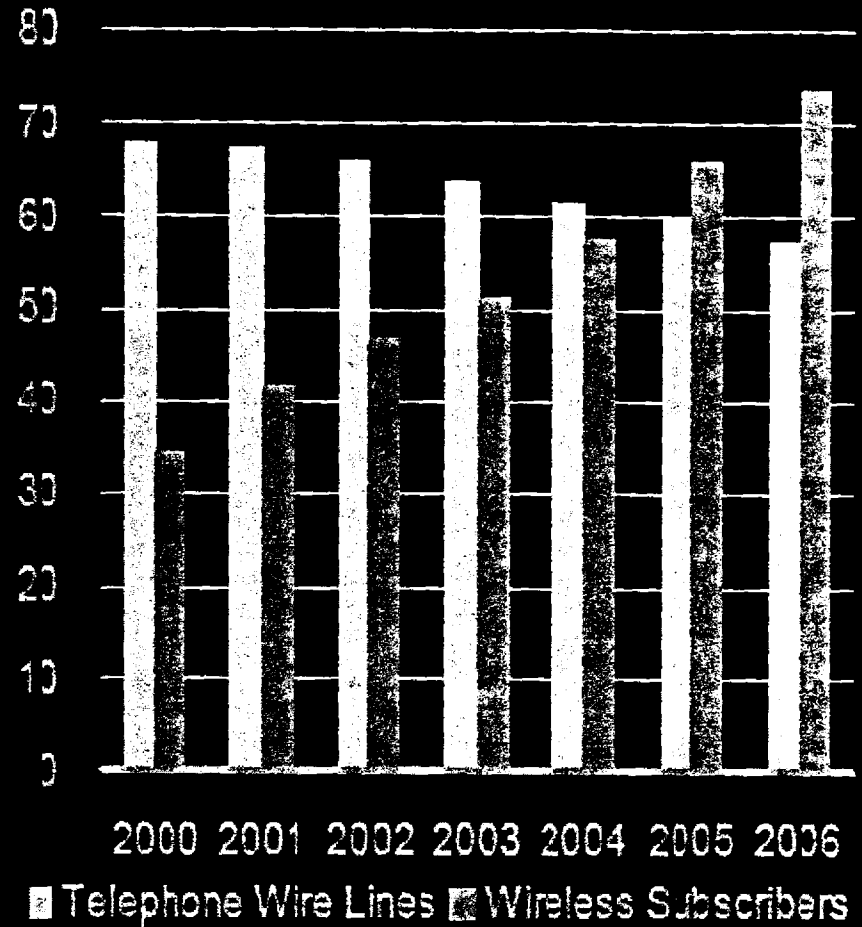
There is a steady move away from traditional fixed line phones

Telephone and VoIP Subscribers in the US



Source: TIA 2008 Telecommunications Market Review & forecast, Federal Communications Commission, CTIA - The

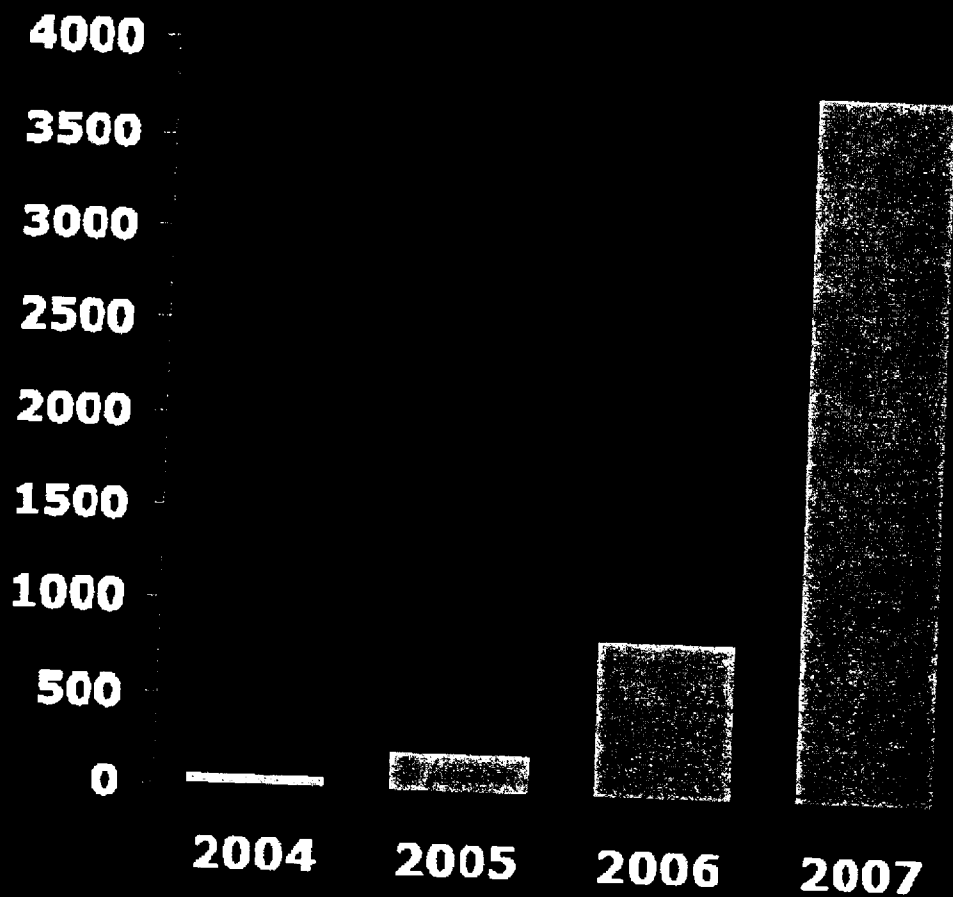
Telephone Penetration per 100 Population



Source: Trends in Telephone Service, FCC, 2007

Wireless Data Traffic Growing Exponentially Usage Quadrupling Every Year

AT&T Wireless Data Traffic



Driven by new applications:

Internet

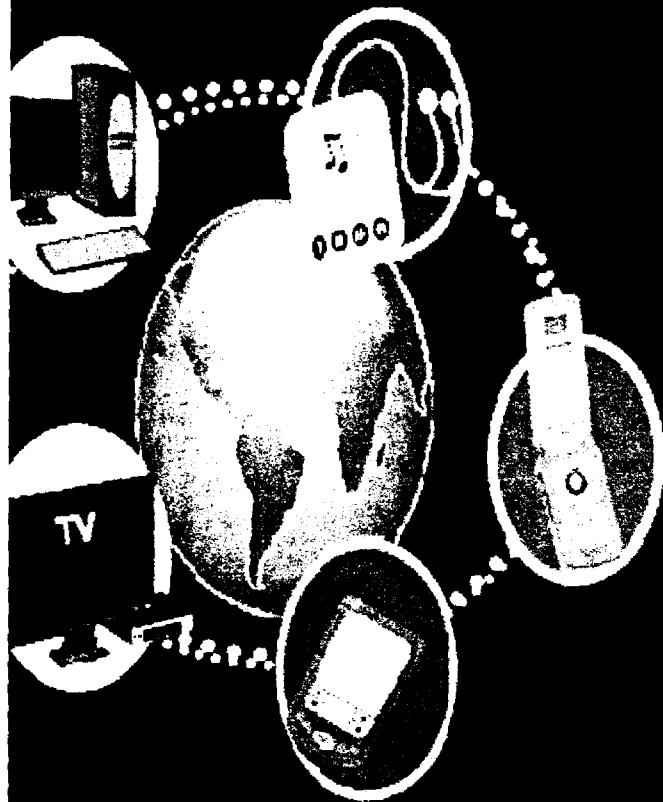
Video

Photo Sharing

Messaging

Three Screens of the Future

Anytime, anywhere access to communications and entertainment services on any device



United States' largest digital voice and data wireless network, with broad 3G deployment

One of world's largest backbone networks

Extensive broadband and video access network





Discussion?

Drug Enforcement Administration Office of Investigative Technology



Diminishing Electronic Surveillance Capabilities in the Communications Age

November 18, 2009

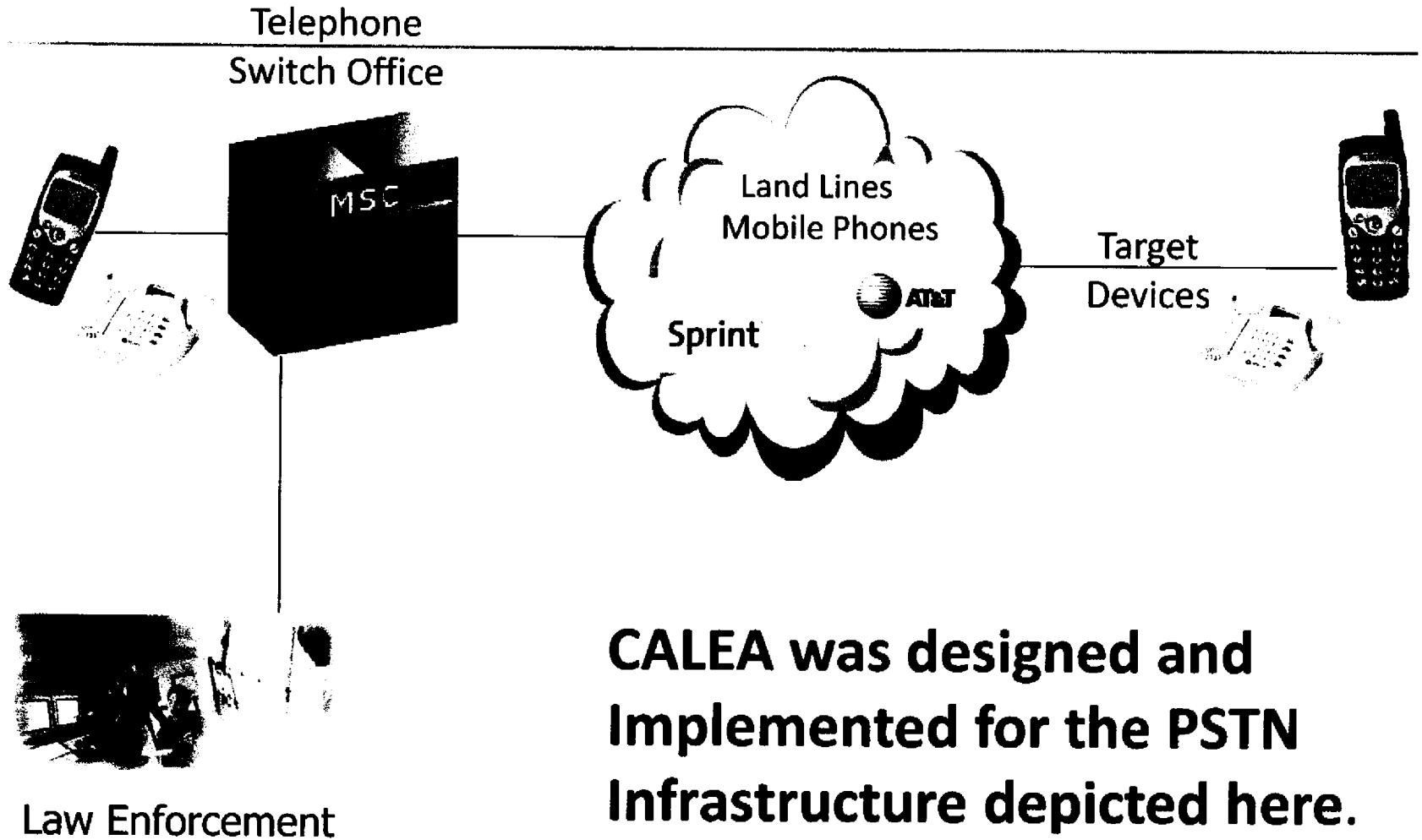
DEA Sensitive Information.
May Not Be Used Or Disclosed Outside DEA

Communications Assistance For Law Enforcement Act (CALEA)

- Congress enacted CALEA in October 1994 to **preserve the ability of law enforcement to conduct electronic surveillance** by requiring that telecommunications carriers and manufacturers of telecommunications equipment modify and design their equipment, facilities, and services to ensure that they have the necessary surveillance capabilities. Applies to—
 - - Common carriers
 - Facilities-based broadband Internet access providers
 - Providers of interconnected (MANAGED) Voice over Internet Protocol (VoIP) services.

 - All defined as “telecommunications carriers” for purposes of CALEA

Traditional Switch Based Intercept 1994 Landscape



**CALEA was designed and
Implemented for the PSTN
Infrastructure depicted here.**

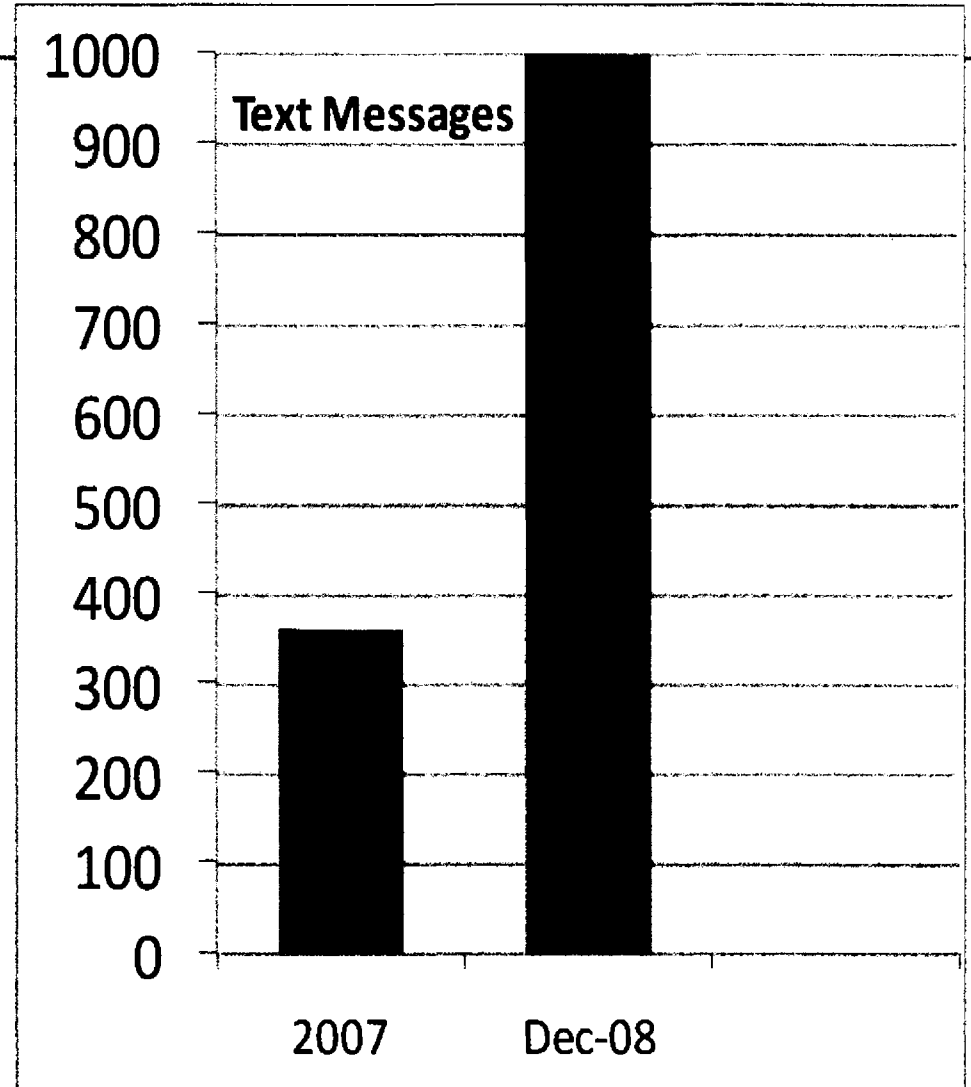
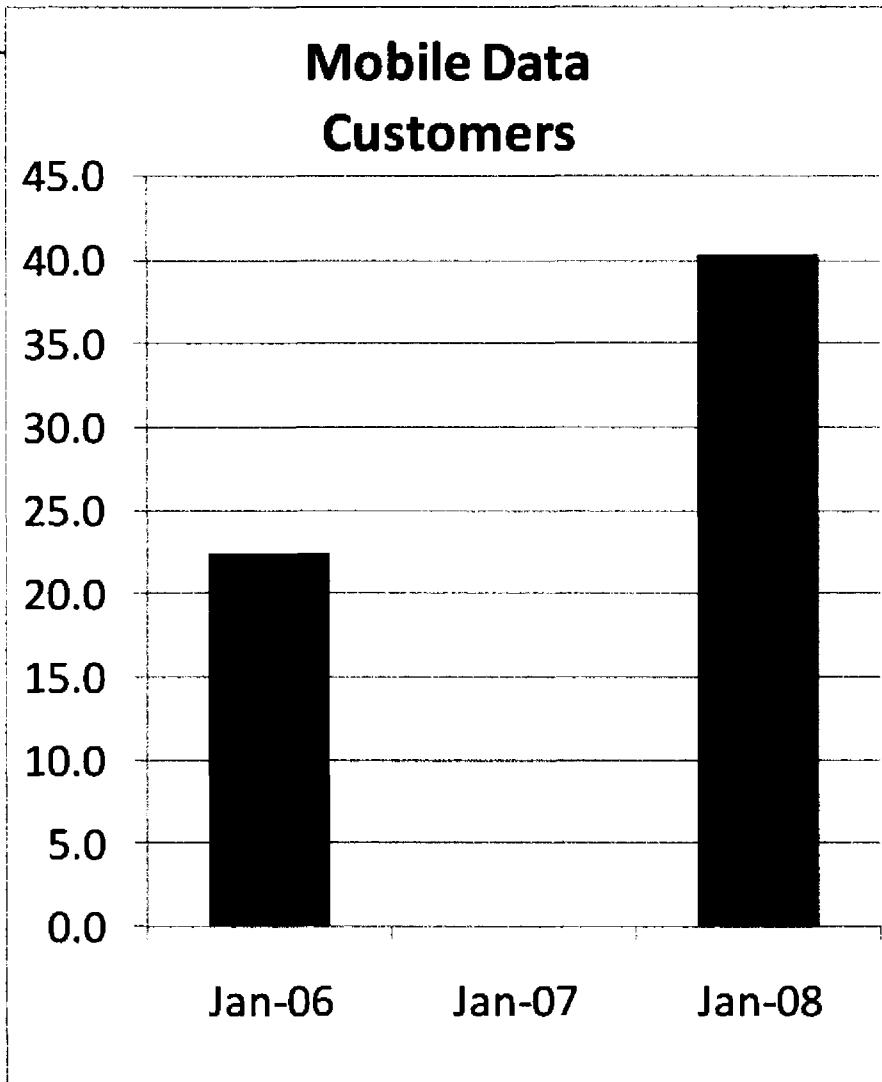
Drivers

-
- Industry full scale convergence and transformation of traditional circuit switched communications to I.P. based communications throughout the world.
 - Wireless data (i.e., Smart-phones, mobile broadband) is driving the telecommunications industry and creating new revenues.
 - Consumer's growing demand for wireless data services and computer-like capabilities such as Skype, encryption, peer-to-peer, location based services (LBS), multi-media, VoIP.
 - AT&T wireless data traffic is doubling every quarter and being driven by messaging, internet access, applications and related services.
 - "Wireless data is driving the economy, Smartphone wireless connectivity is the answer." *Meredith Attwell-Baker, Commissioner Federal Communications Commission*

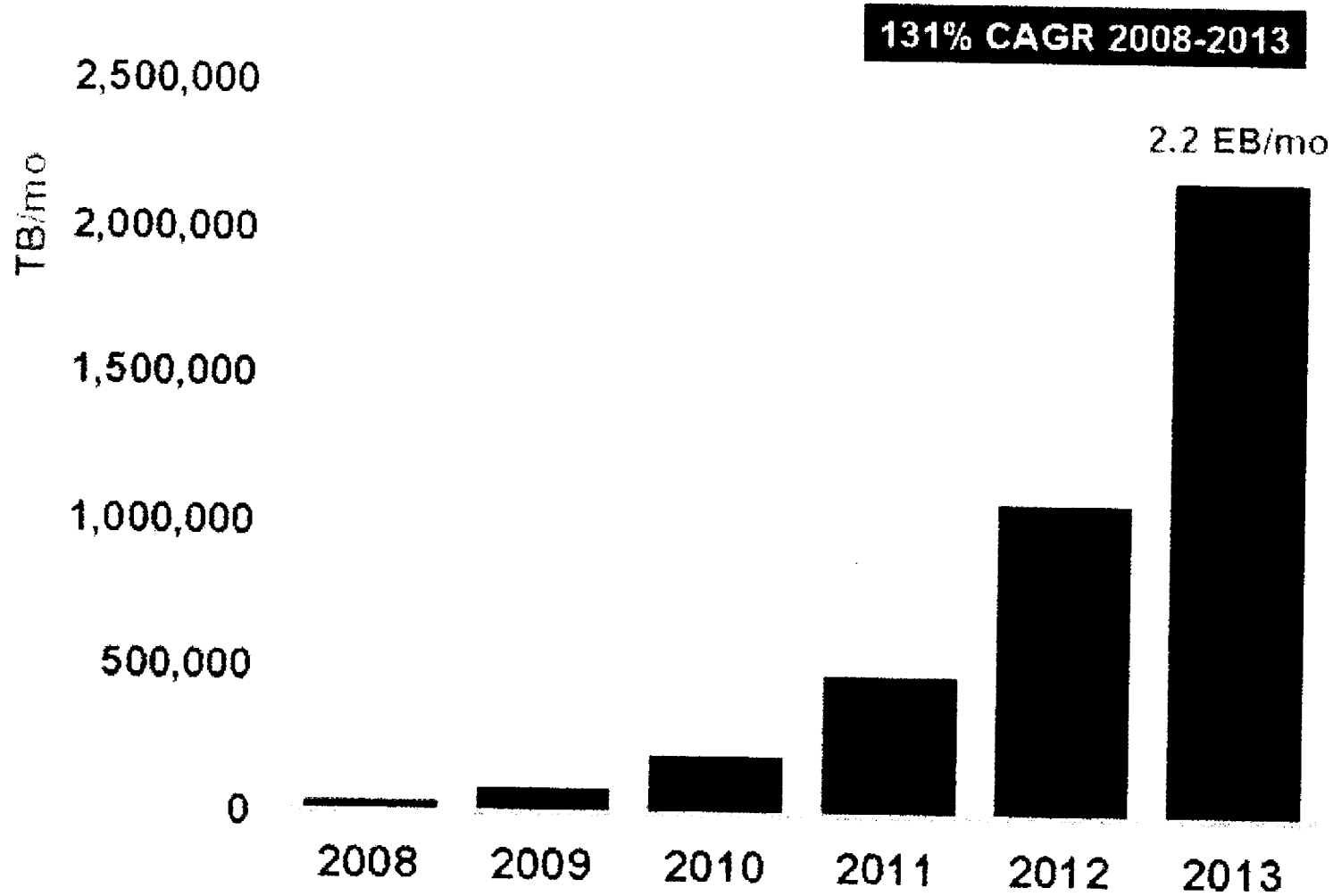
Wireless Data Trends

- Wireless data service revenues for the first half of 2009 climbed to more than \$19.4 billion—a 31% increase from the first half of 2008.
 - There are more than 276 million U.S. wireless subscribers.
 - More than 740 billion text messages were reported for the first half of 2009—breaking down to 4.1 billion messages per day— which is nearly double the amount of texts reported for the first half of 2008.
 - 1.1 trillion minutes were used in the first half of 2009—breaking down to 6.4 billion minutes-of-use per day.
 - More than 246 million data-capable devices are in the hands of consumers today. More than 40 million of these devices are Smart-phones or wireless-enabled PDAs and more than 10 million are wireless-enabled laptops, notebooks or air-cards

Shift from Mobile Voice to Mobile Internet - Data Communications



Global Mobile Data Traffic Growth

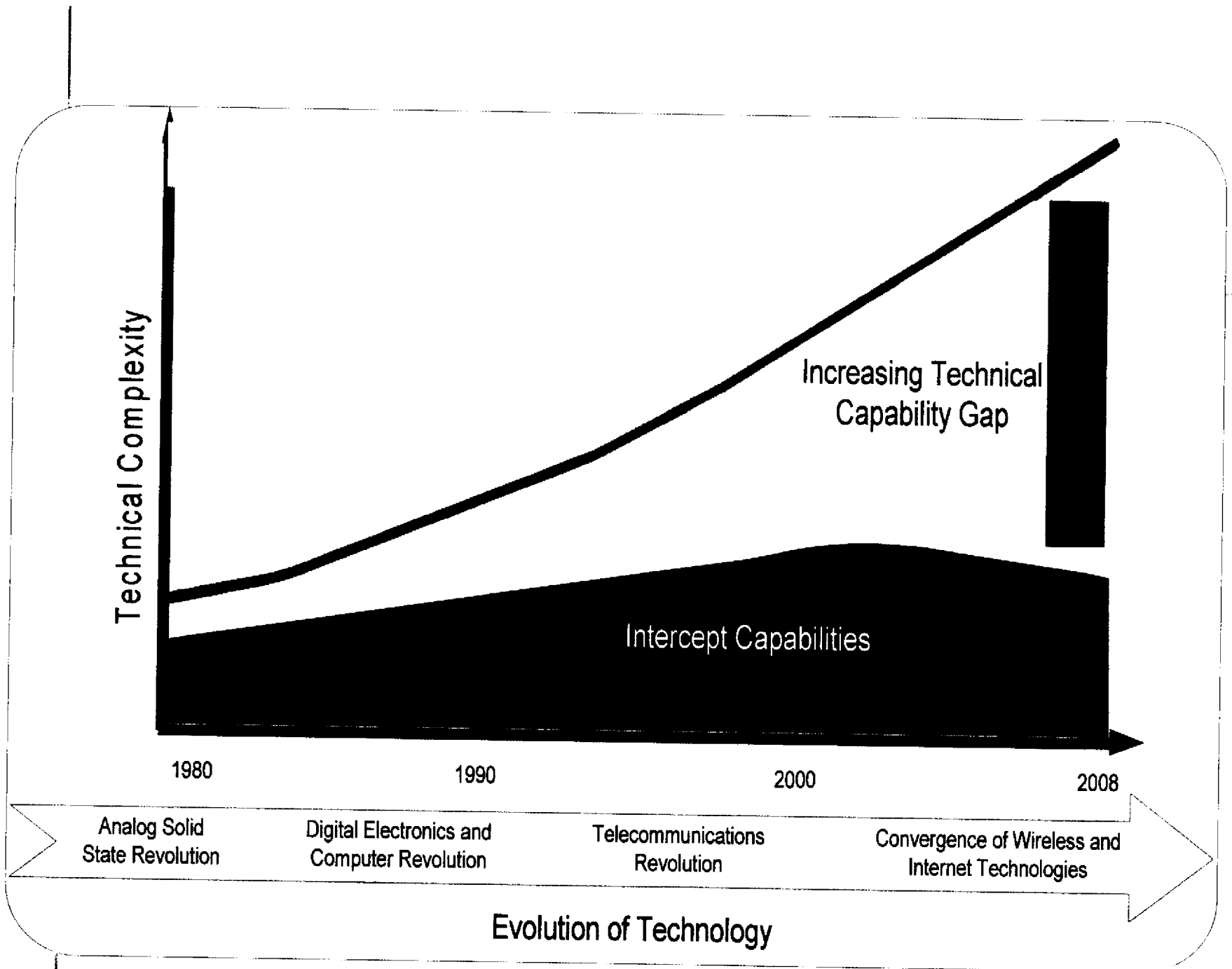


Source: Cisco Visual Networking Index – Forecast, 2008-2013

Chasing Technology

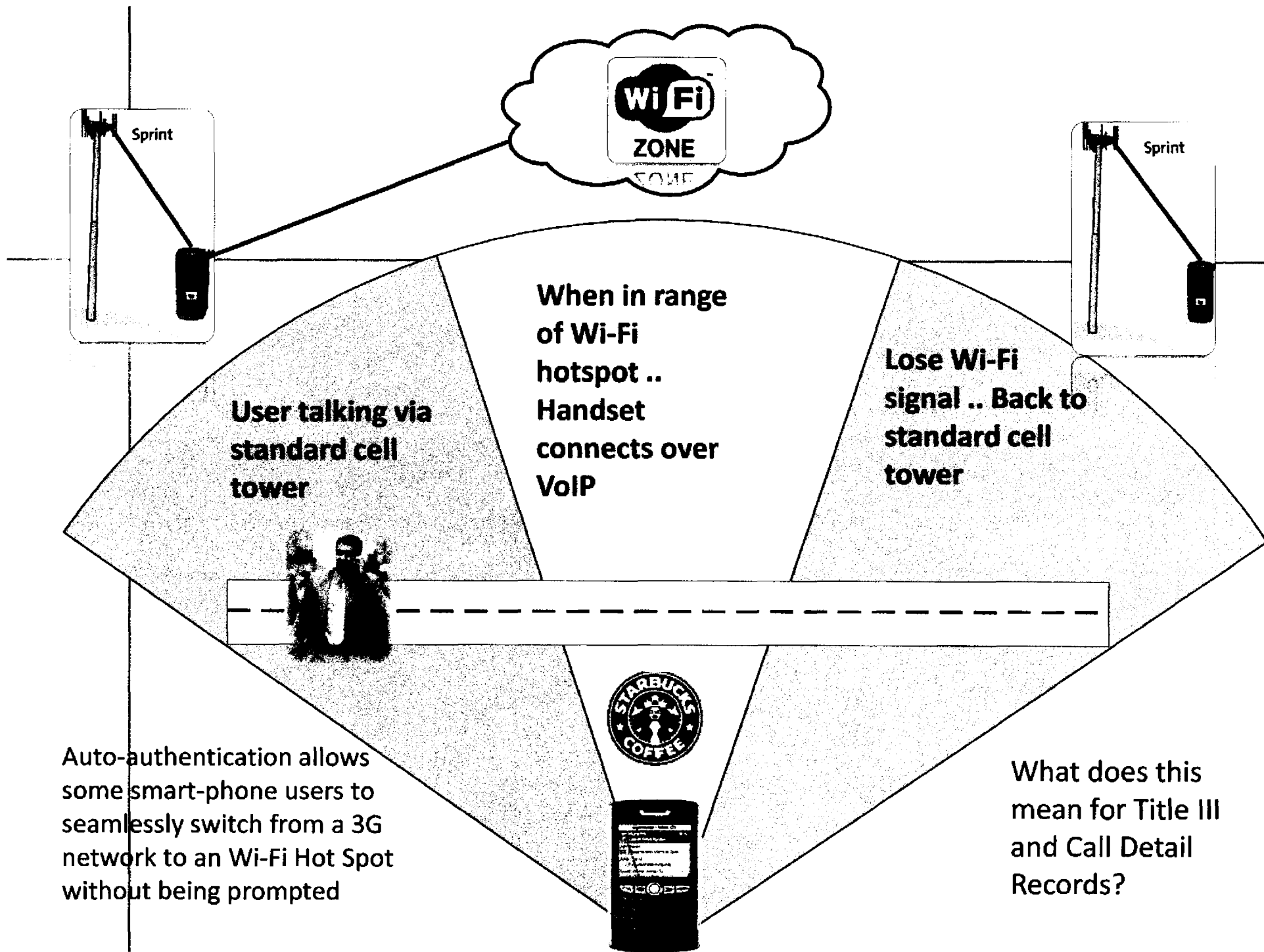
- Target exploitation in an IP world does not look the same as in a switched-based world.
- Scale and pace of wireless IP communications technology is developing quicker that we can adapt to in light of current legislation and policies.
- We need to improve our ability to respond to developing communications technologies through both resource allocation and legislative reform.

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Technology Challenges Today

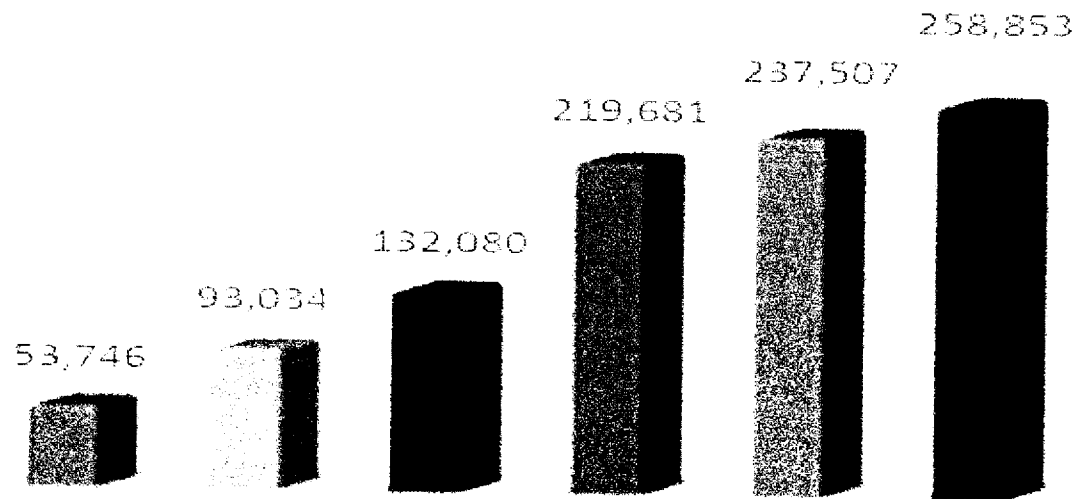
- Target Mobility
- Target Identification
- IP Based Communications
- Peer to Peer Communications
- Multiple types of Broadband Services (e.g., Wireless, Cable, FIOS)
- Encryption
- Authentication
- (b)(5), (b)(7)(E)



Wi-Fi Cell Phones Expected to Double in Two Years

8-28-09 CIO.com

400% Growth in WW Public Wi-Fi Hotspots: 2004-2009 (June)

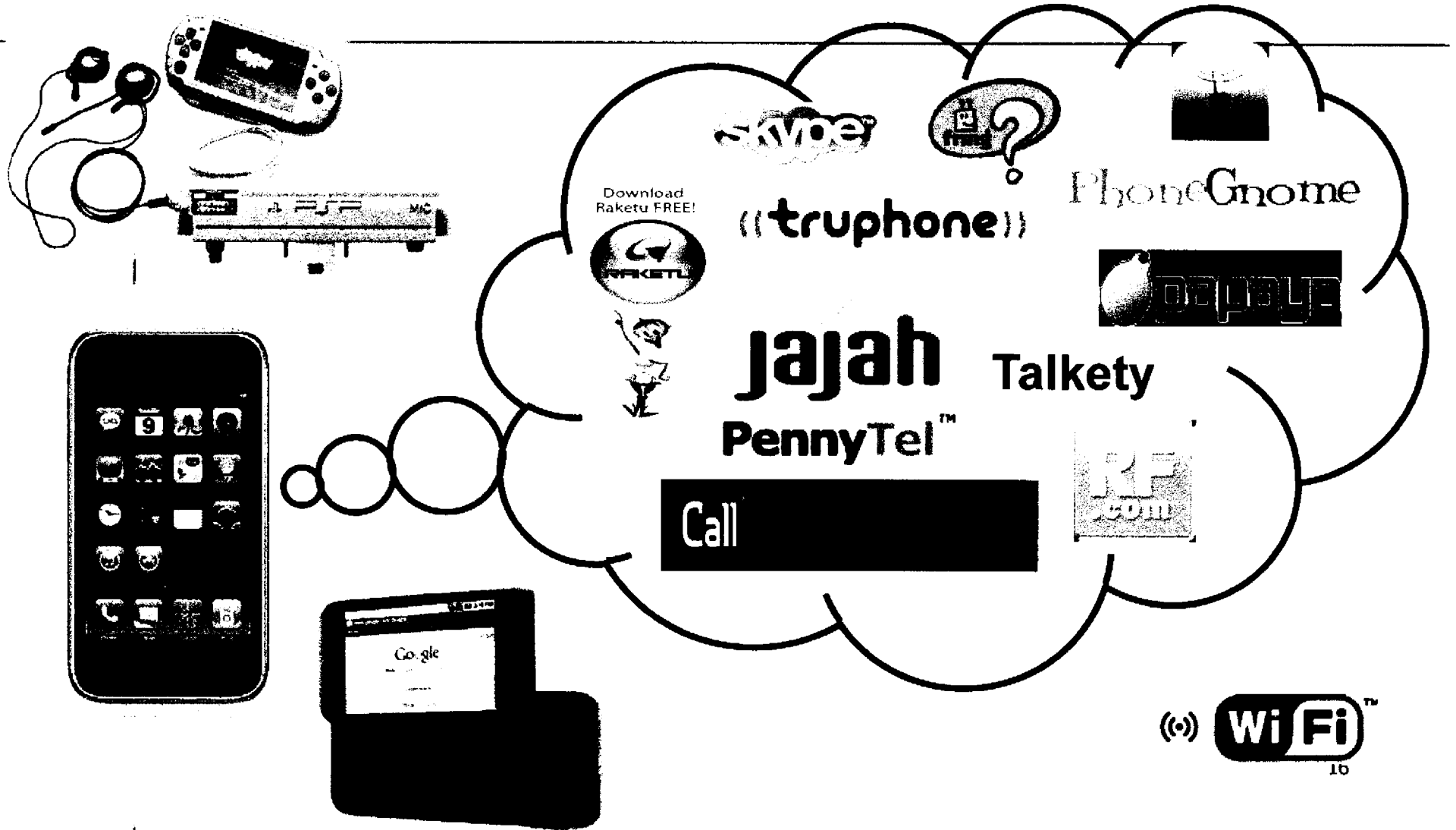


Source: JMWire, 2009

1	New York City	887
2	San Francisco	872
3	Chicago	792
4	Seattle	625
5	Houston	617
6	Los Angeles	505
7	Atlanta	453
8	San Diego	438
9	San Antonio	431
10	Austin	417

Source: JMWire, 2009

Convergence of Smart-Phones, Game Stations, VoIP Applications and 3G/Wi-Fi Technology



Smart-Phone Capabilities

Mobile Data

- Smart-phone capabilities include:
 - Traditional Voice
 - Email
 - Text Messaging (SMS)
 - Instant Messaging (IM)/ Chat
 - 72 different Voice over IP (VoIP) applications available
 - Web-based Virtual Worlds. (Second life, World of Warcraft)
 - Wi-Fi ((b)(5), (b)(7)(E))
 - 3rd party GPS Mapping Applications
 - Social Networking (Facebook, Flickr, MySpace etc...)
 - Web-based email (Hotmail, Yahoo etc..)

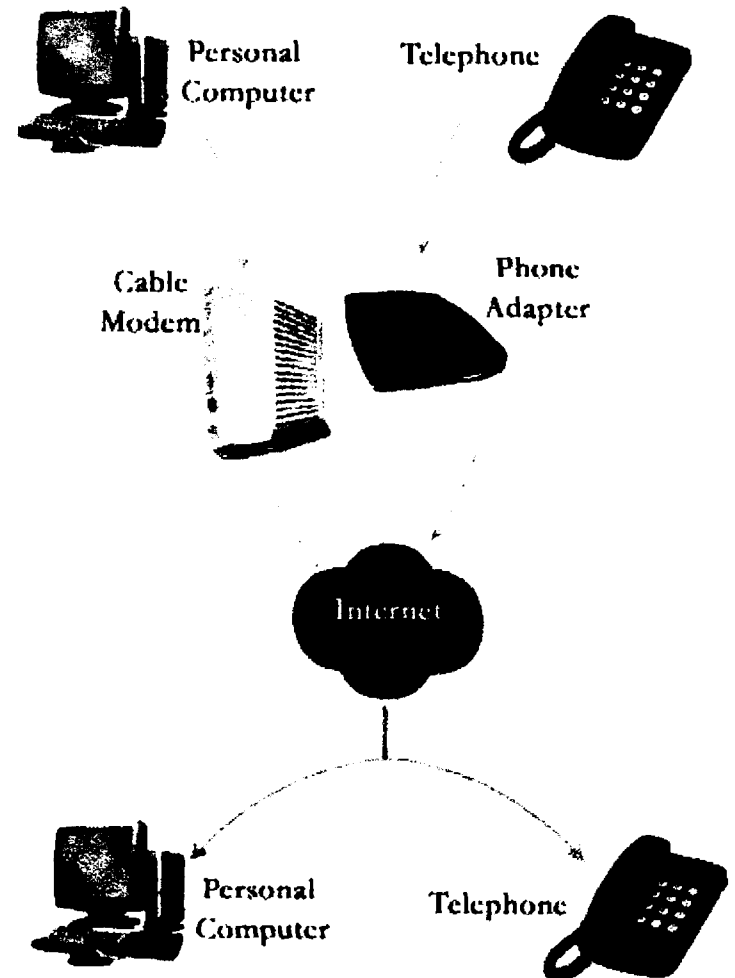
Q & A

Voice over I.P. (VoIP)

A communications method that converts analog voice to standard I.P. Language, so that it can be transmitted over the internet.

Managed VoIP: (Vonage, Magic Jack, Google Voice)

Unmanaged VoIP: (Skype, Fring, and other 3rd party Apps)



Skype

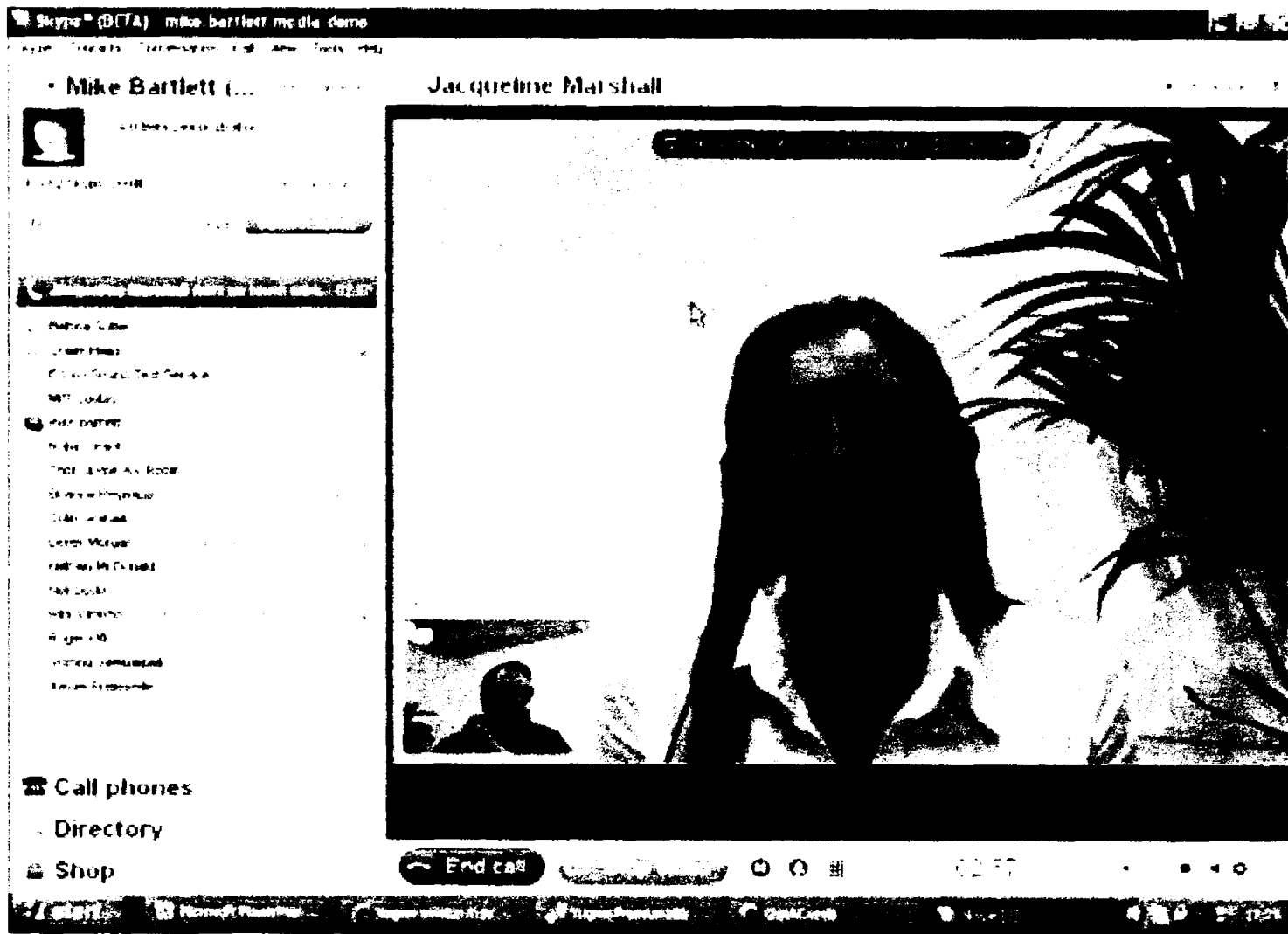
An unmanaged provider of peer-to-peer global communications via the internet

Skype

- Supports three primary methods of communications:
 - Skype to Skype: Free, Encrypted Computer to computer voice, chat, IM, video
 - Skype-Out: Unencrypted I.P. call to traditional telephone (cellular/ landline). CDR's and I.P. Logs available.. Cost per call.
 - Skype-In: Traditional cellular or landline unencrypted call to a Skype assigned number. Cost per call.

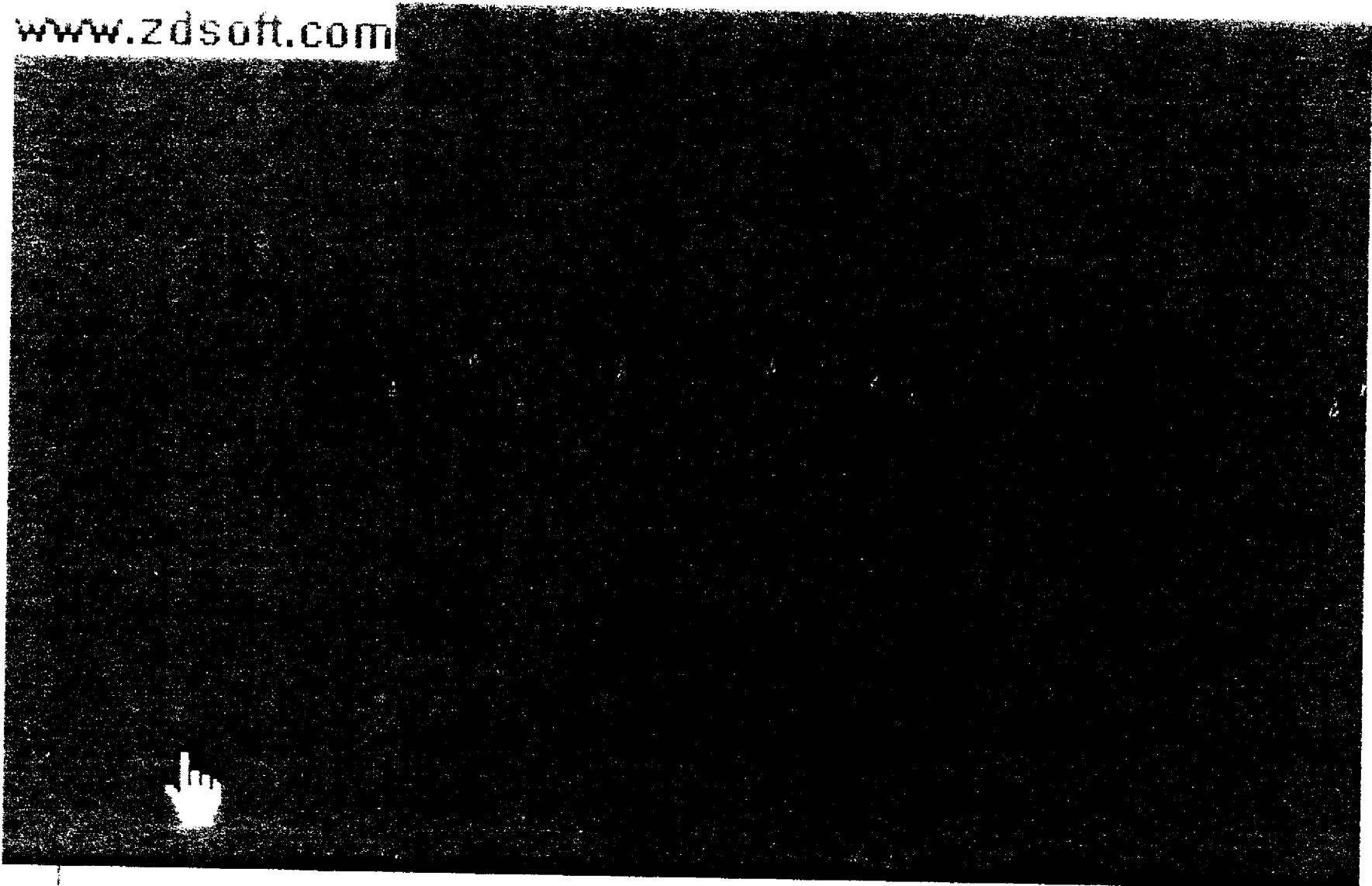


An unmanaged provider of encrypted peer to peer global communications via the internet



Google Voice-Managed VoIP

www.zdsoft.com



Research in Motion

Blackberry

Records Exploitation

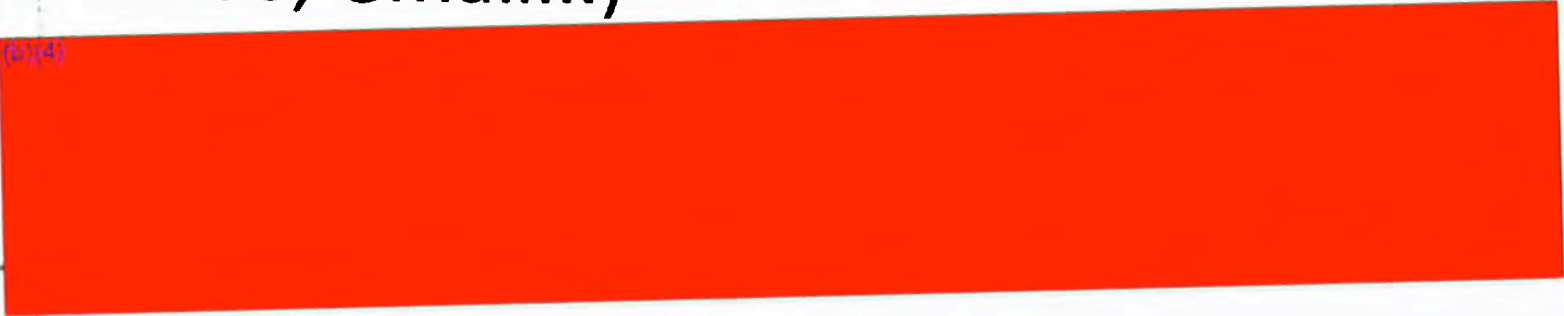
Blackberry

A communication device developed by Research in Motion (RIM), Waterloo, Canada. Provides encrypted data communication services over wireless networks.

Not subject to U.S. CALEA laws.

Service is provided by multiple providers, internationally and domestically, such as AT&T, Verizon, T-Mobile, Sprint.

Basic Architecture of Blackberry

- **BIS (Blackberry Internet Service):**
Provides subscribers with delivery of email messages, web-browsing. Blackberry.net (Encrypted email service hosted by RIM/) and integrated webmail accounts (Hotmail, Yahoo, Gmail...)
- 

Basic Architecture of Blackberry

- BES (Blackberry Enterprise Server).

Designed to establish encrypted, two-way communications between blackberry devices among user defined groups

(b)(7)(F)

- Also marketed to the public

(b)(7)(F)

PIN to PIN Messaging

- PIN to PIN Messaging.
Encrypted peer to peer messaging between blackberry devices.
- Messages can be sent across networks, worldwide, via a central relay managed by RIM.

REDACTED

