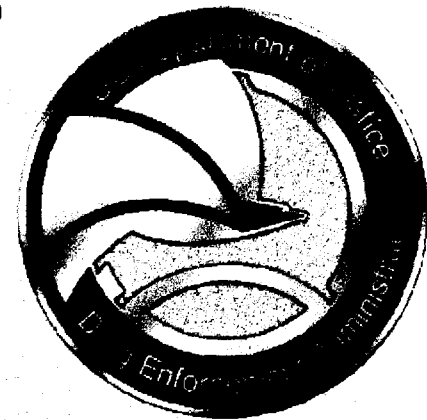


Presentation To  
United States Department of Justice  
Office of Enforcement Operations  
Narcotics & Dangerous Drugs Section

April 17, 2008



# Office of Investigative Technology

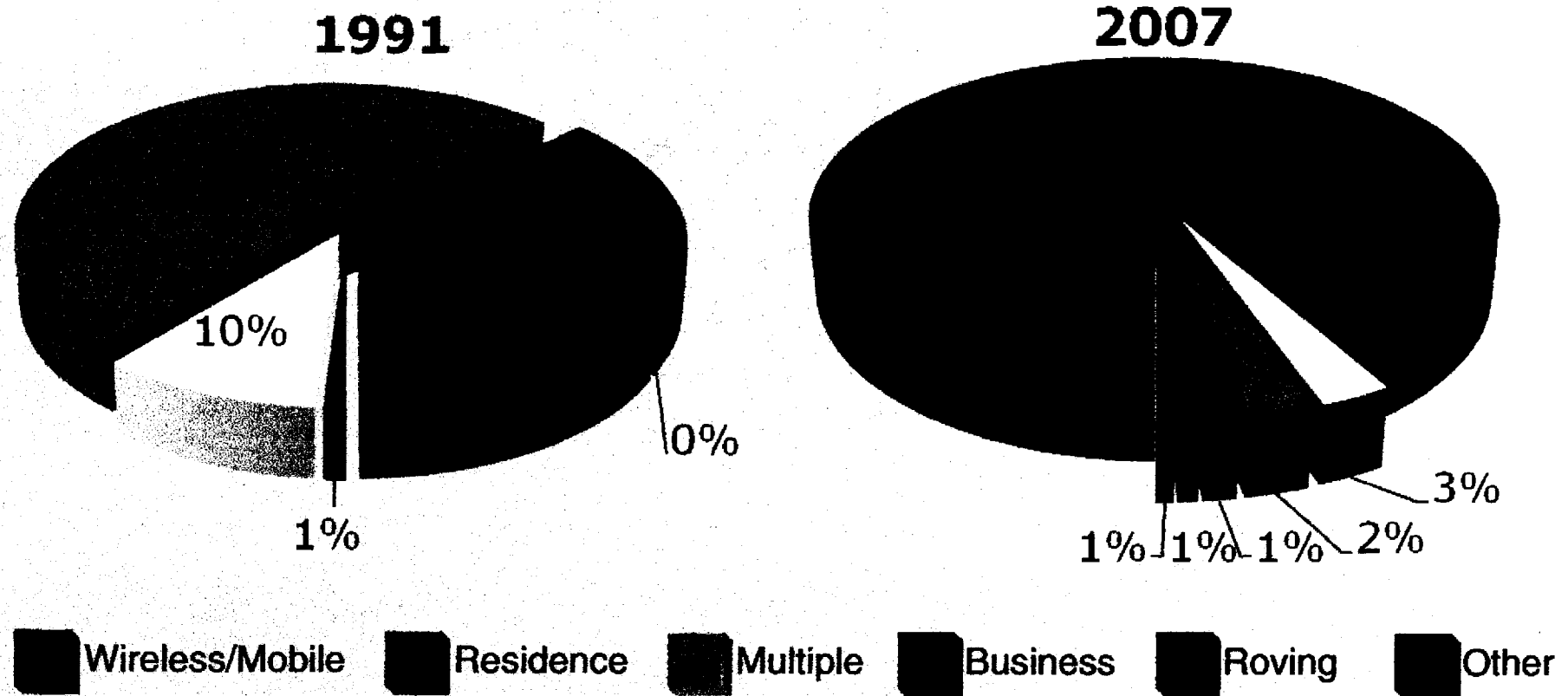
(b)(6), (b)(7)(C), (b)(7)(F)

## Deputy Assistant Administrator



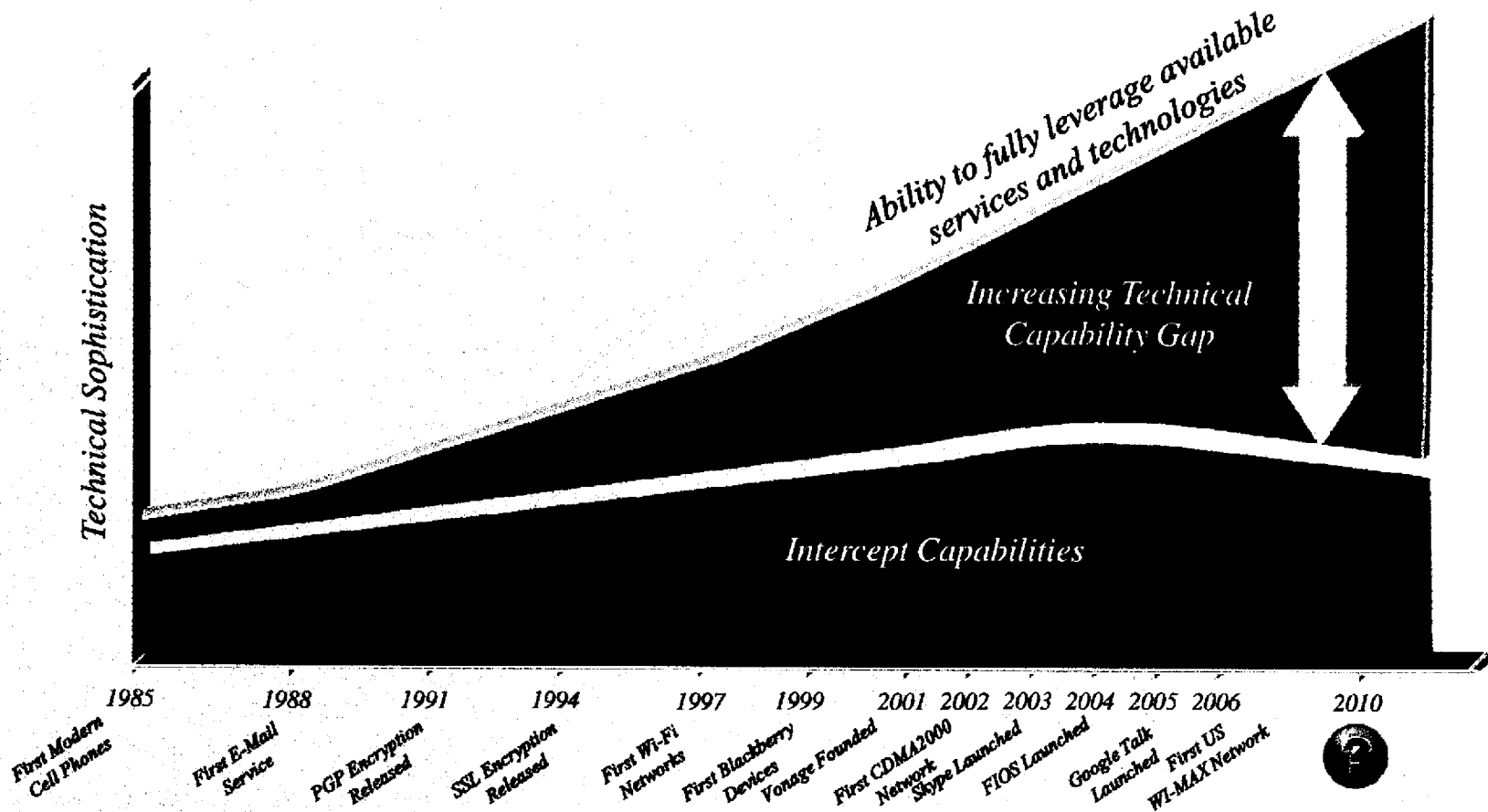
# ELECTRONIC SURVEILLANCE TRENDS

- Shift in location of wiretaps
- Wireless / mobile technologies are the preferred medium of communications for targets



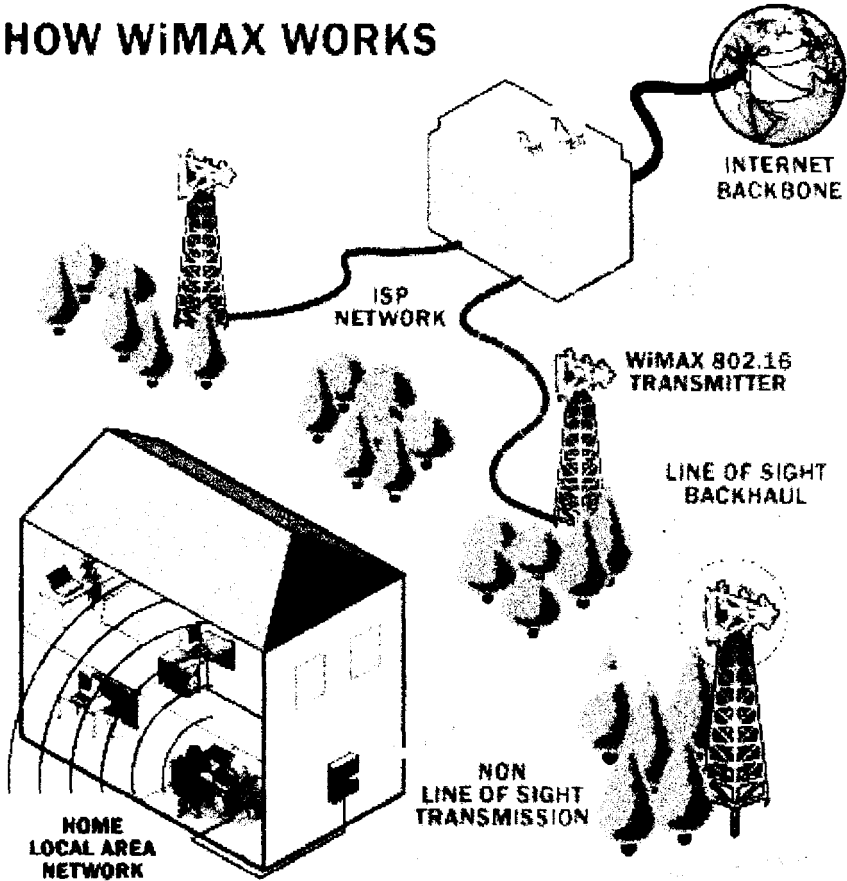
Source: 2006 Wiretap Report, Administrative Office of the United States Courts

# INCREASED TECHNICAL COMPLEXITY



# Wi-Fi vs.

## HOW WiMAX WORKS



# Wi-Max

- ◆ Wi-Fi has a range of 100 yards. It can provide a wireless Internet connection within a coffee shop, a house or on one floor of an office building.
- ◆ Wi-Max has a range of up to 20 to 30 miles. It can provide a wireless Internet connection for a small city.

# Blackberry/RIM

## **Blackberry Enterprise Server (BES)**

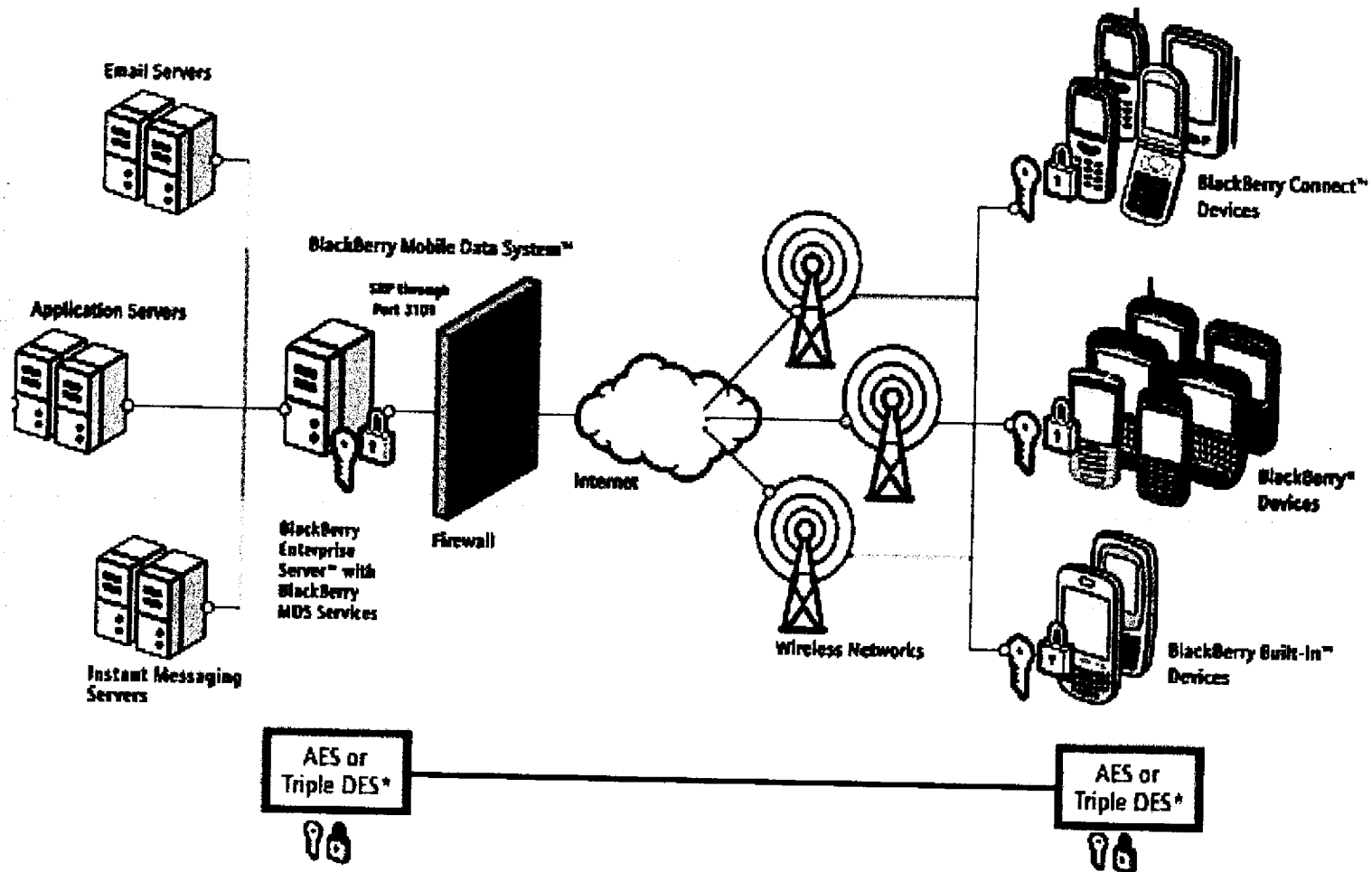
- ◆ Primarily utilized in a cooperate environment.
- ◆ Requires an administrator
- ◆ Administrator has control over devices (ability to activate or push software)
- ◆ All data between applications and BlackBerry devices flows centrally through the server
- ◆ Offers enterprise email services
- ◆ Pin- to-Pin communications (Canada)
- ◆ Communications are both compressed and encrypted (128bit – 256bit)

## **Blackberry Internet Service (BIS)**

- ◆ Utilized by individual users
- ◆ Internet browsing capabilities
- ◆ Can be configured to forward up to 10 email accounts to the device (AOL, Hotmail, Google Mail etc)
- ◆ Instant messaging
- ◆ Ability to load 3<sup>rd</sup> party provided software

# Blackberry/RIM

## Blackberry Enterprise Server





# Technology Challenges

## LAWFUL INTERCEPT CAPABILITIES ARE ERODING

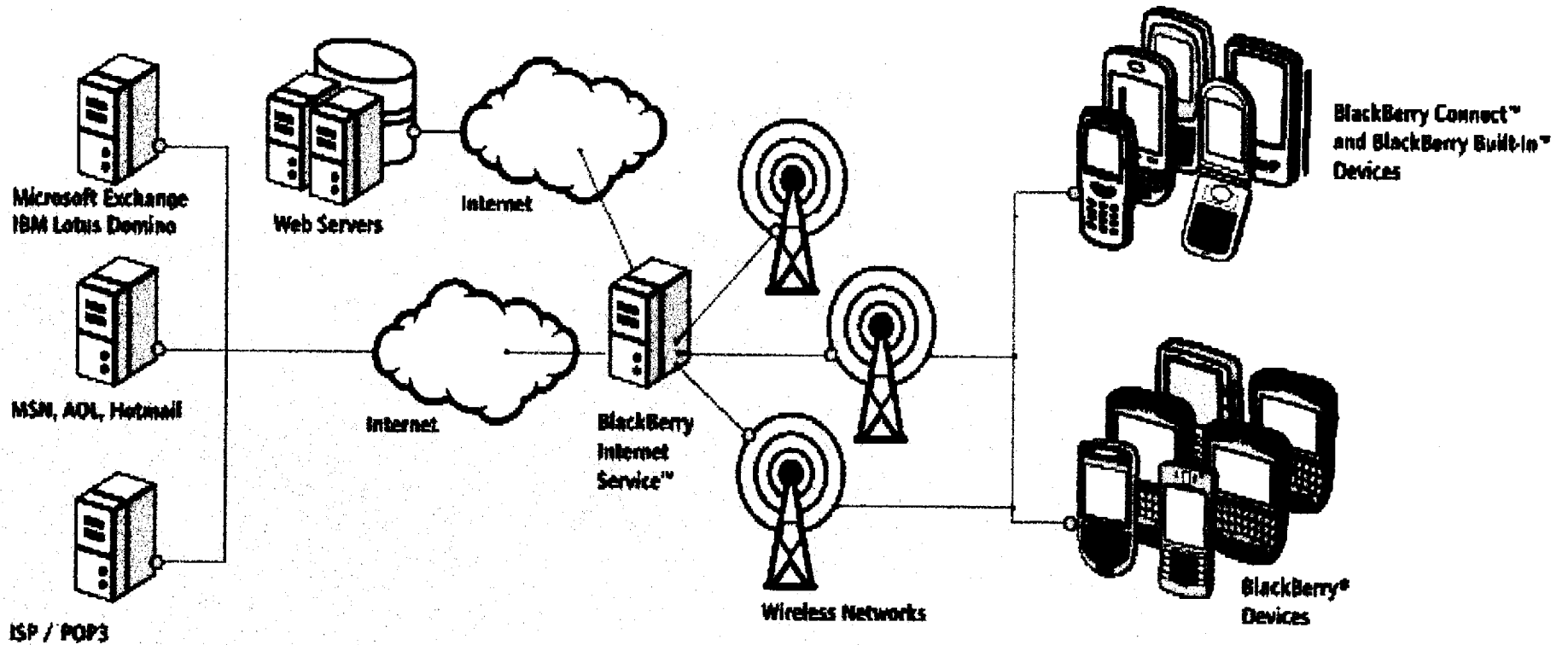
Despite strategic capabilities, existing trends indicate law enforcement will have substantial and wide spread electronic surveillance difficulties as technology evolves

### Challenges include:

- ❖ Target Mobility
- ❖ Difficulty Targeting & Intercepting the Traffic
- ❖ Target Identification
- ❖ Peer to Peer Communications
- ❖ Delivery of Broadband Services
- ❖ Encryption

# Blackberry/RIM

## Blackberry Internet Service (BIS)



# Intercept Issues Today

- ◆ Blackberry
- ◆ Peer-to-Peer (Skype)
- ◆ Caller-ID Spoofing
- ◆ Encryption

# Intercept Issues on the Horizon

- ◆ Seamless Mobility—4G Technology
- ◆ Satellite Quad Band Cell Phones
- ◆ WiMax
- ◆ Location Based Services
- ◆ Encryption

# Drug Enforcement Administration Office of Investigative Technology



## Emerging Communications

Directorate of National Intelligence

April 9, 2010

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

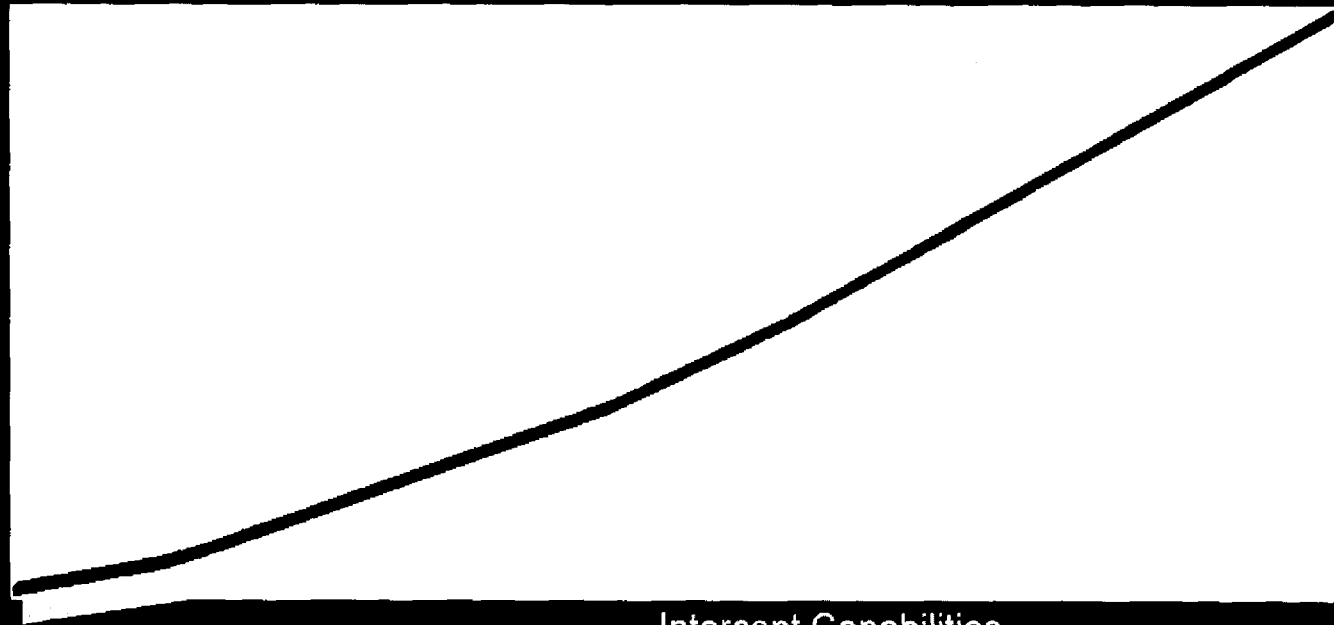
# Technology Transition



- World-wide Industry full-scale convergence and transition from 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 (wireless apps) such as Skype, Facebook, email, Chat, IM, 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.

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

# ELSUR Capabilities



Intercept Capabilities

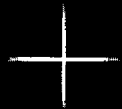
Analog Solid  
State Revolution

Digital Electronics and  
Computer Revolution

Telecommunications  
Revolution

Convergence of Wireless and  
Internet Technologies

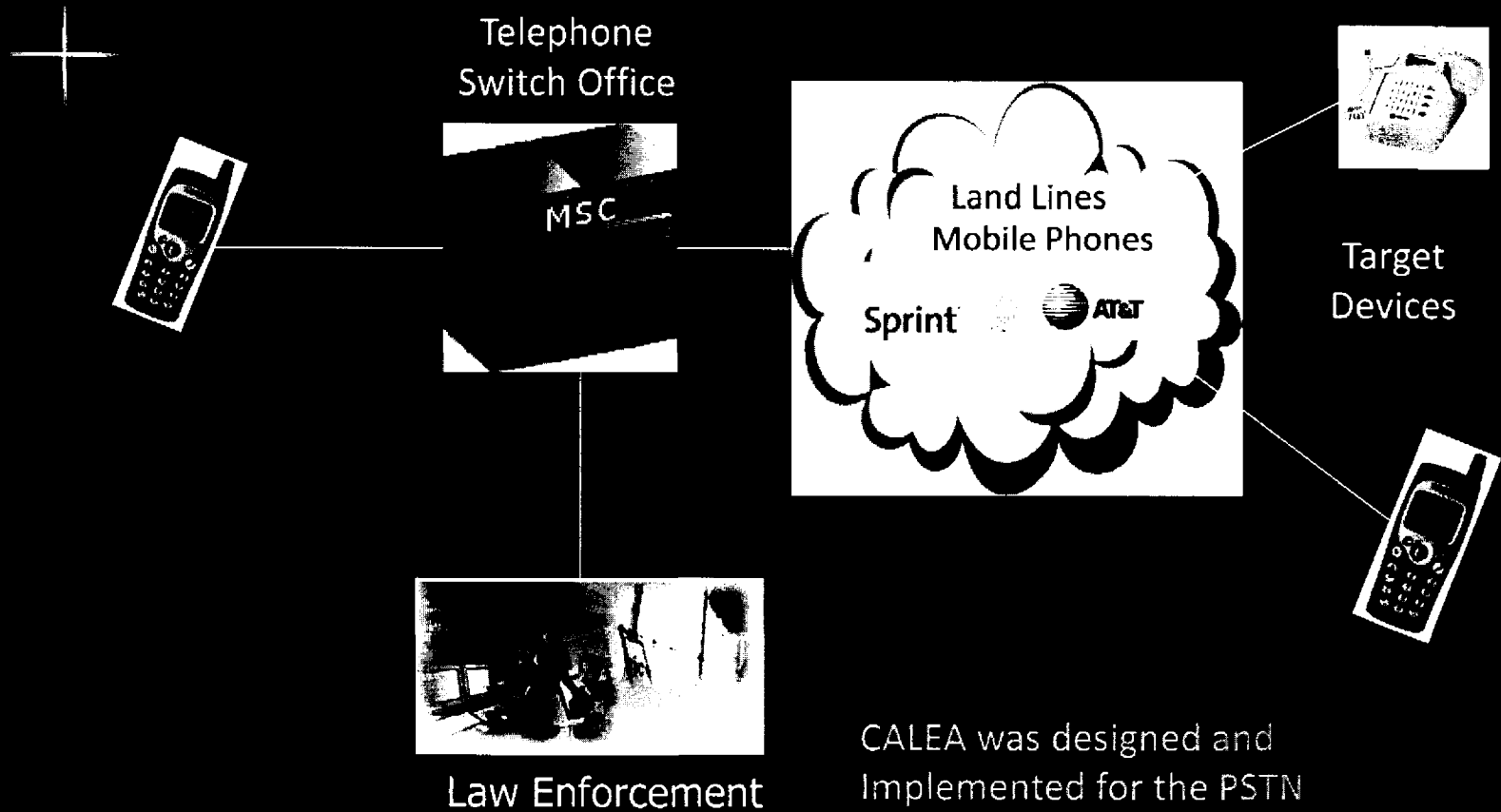
## Communications Assistance For Law Enforcement Act (CALEA)



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



# Traditional Switch Based Intercept



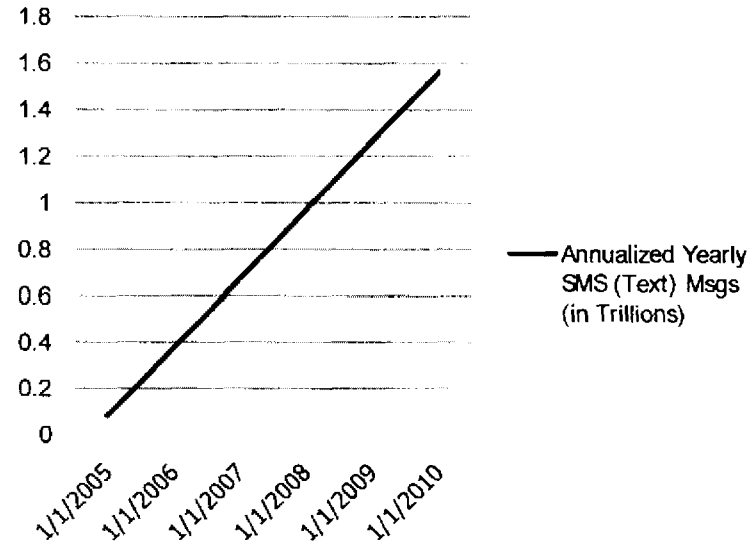
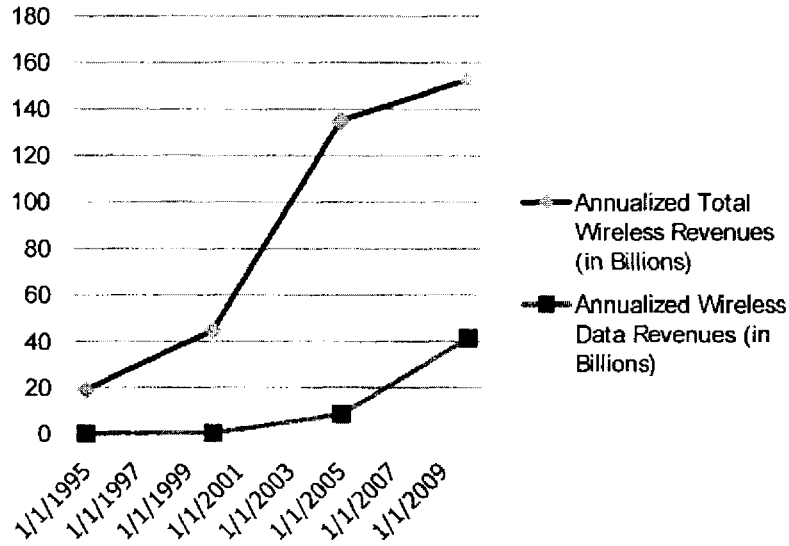
CALEA was designed and Implemented for the PSTN Infrastructure depicted here.

# Emerging Communications Challenges



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

# WIRELESS EVOLUTION



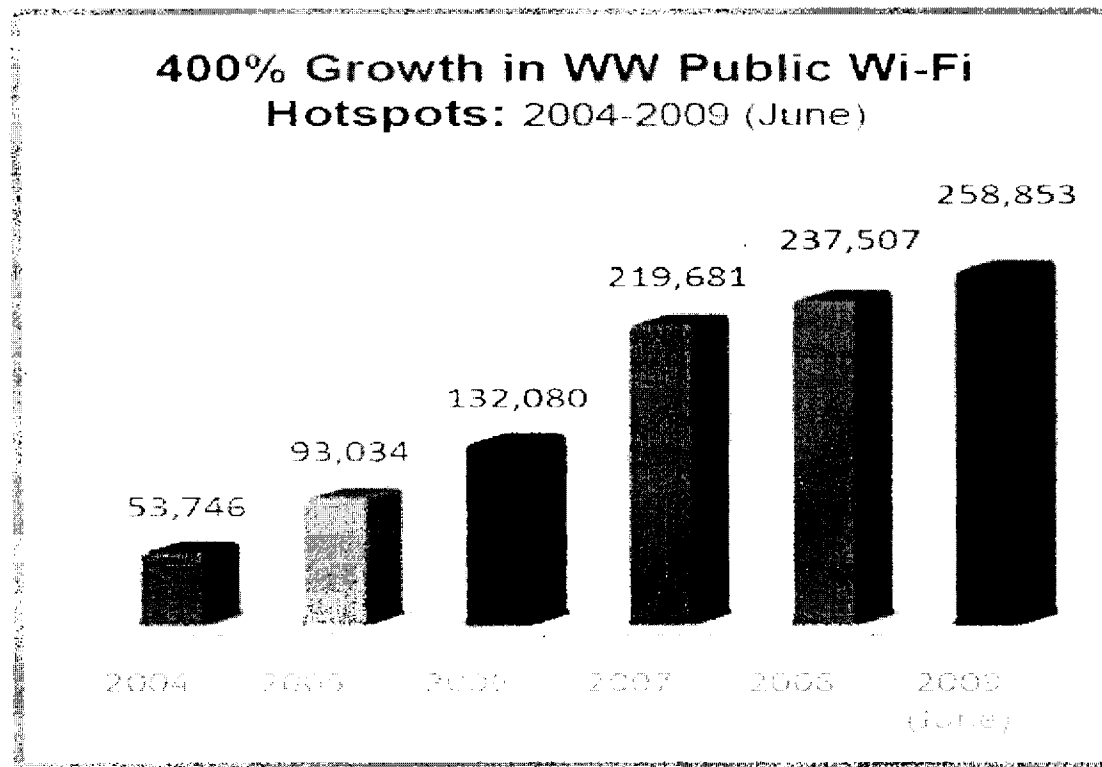
## Year-End Figures

Topic	Dec-09	Dec-05	Dec-00	Dec-95
Annualized Total Wireless Revenues	\$152.6B	\$113.5B	\$45.3B	\$19B
Annualized Wireless Data Revenues	\$41.5B	\$8.5B	\$211.2M	N/A
Annualized Yearly SMS Messages	1.56T	81B	N/A	N/A

# Wi-Fi Cell Phones Expected to Double in Two Years

8-28-09 CIO.com

Worldwide Public Wi-Fi Hotspots:  
2004-2009



Source: JiWire, 2009

Top 10 U.S. Cities for Public Wi-Fi:  
June 2009

Rank	U.S. Cities	June 2009 # of Hotspots
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

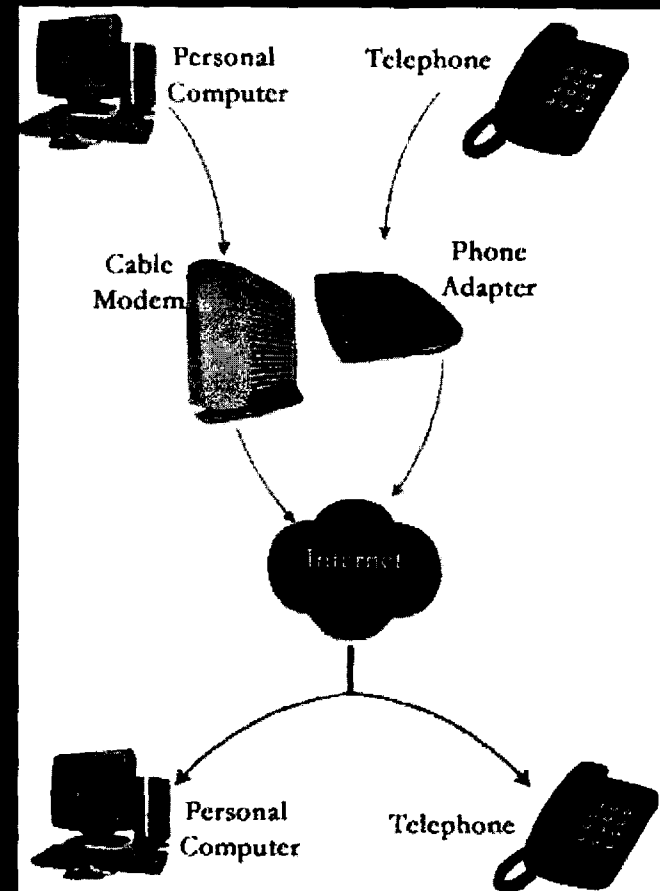
Source: JiWire, 2009

# 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 3<sup>rd</sup> party Apps)



# Social Networking

- A social network service essentially consists of a representation of each user (often a profile), his/her social links, and a variety of additional services, such as pictures. Most social network services are web based and provides means for users to interact over the internet, such as e-mail and instant messaging
- Features offered by these sites, such as ease of use and user control of privacy settings, offer an alternative means of communication to criminal entities. Facebook, MySpace and Sonico, as well as others, offer features which give the user control of how they communicate and exchange information



facebook



# Virtual Worlds Defined



- A virtual world is an animated three-dimensional computer generated world that allow users the ability to interact within the environment by virtue of an avatar (computerized character that the user chooses to represent themselves).
- The user's avatar interacts and communicates with other users in the virtual world through VoIP and/or instant messaging.
- In simple terms, the avatar is a remote controlled character or proxy.

# Mobile Device Capabilities



## ■ Hand-held gaming and Smart-phone Devices

- Voice over I.P. (VoIP)
- Email
- Text Messaging (SMS)
- Instant Messaging (IM)/ Chat
- 90+ different Voice over IP (VoIP) applications available
- Web-based Virtual Worlds. (Second life, World of Warcraft)
- Wi-Fi (b)(7)(E)
- 3<sup>rd</sup> party GPS Mapping Applications
- Social Networking (Facebook, Flickr, MySpace etc...)
- Web-based email (Hotmail, Yahoo etc. )



# Future Communications



[www.VideosLegais.Com.Br](http://www.VideosLegais.Com.Br)



# Q & A