CALEA and VoIP:
The Internet is not the PSTN

Steven M. Bellovin
smb@research.att.com
http://www.research.att.com

"On the Internet, no one knows what a phone call is."

The PSTN and the Internet

- One major service: telephony
- Primarily two-party; dedicated circuits
- In-band signaling
- The network defines the applications

- Many services, all different
- Multi-party; packet-switching
- Out-of-band signaling
- The edges define the applications

What is the Service Being Tapped?

- What is a "phone call"?
- The standard Internet telephony protocol – SIP – is used for very many other things besides voice
- The signaling path is not necessarily the voice path – whose call is being tapped?
- The service provider does not know or care what applications the customer is using – how can they tap it intelligently?

The Dangers of Engineered Back Doors

- It's hard enough getting base functionality correct and secure
- A wiretap feature is *designed* to disclose private information – is it secure?
  - Claims about security problems with CALEA interfaces
- The IETF has declined to add wiretap interfaces to its protocols (RFC 2804):
  - "Experience has shown that complexity almost inevitably jeopardizes the security of communications even when it is not being tapped by any legal means; there are also obvious risks raised by having to protect the access to the wiretap."