

Videophones

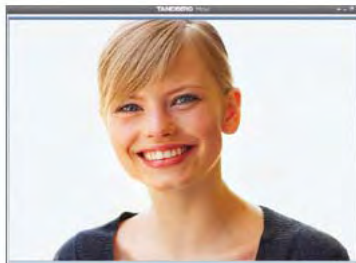
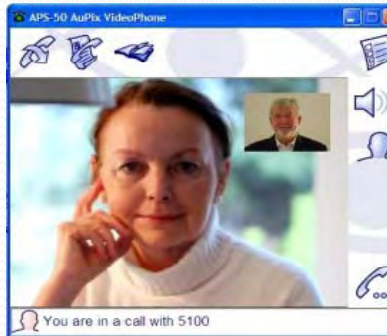
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It isn't a new application ...

- **Picturephone** - 1964 AT&T
- **Videophone** - 1992 AT&T, 2004 Telmex
- AV Phones today:
 - HW/SW: Tandberg, WorldGate, D-Link, & SamSung ...
 - PC-based: Kapanga, Econf, Microsoft Live Messenger, Skype, and Yahoo Messenger etc.
- Network Components: *Tandberg VCS, Microsoft OCS, Video PBX, Gateway, Proxy, Router, etc.*

Many Choices ?



TeleHealth Requirements

- TeleHealth Needs:
 - Reduced ER **visits**,
 - Reduced hospital **admissions**,
 - Reduced length of **stay**, and
 - Improved patient and provider **satisfaction**.
- Performance Expectations:
 - **Resolution**
 - **Frame Rate**
 - **Clarity** - Light Sensitivity
 - *Secured Channel*

Technical Requirements

- Networking: IPv4, IPv6
- Signaling: SIP, H.323
- Features:
 - Basic: P2P, Caller-ID, AV Recording, (Hold), (Forward) ...
 - Advanced: Transfer, Waiting, Redirection, Fork, Conferencing, etc.
- Implementation:
 - **Serverless** – Possible with only basic features
 - Network assisted - It's necessary with advanced features.



Current State of Technology

- There are many videophone vendors out there but only a very **few are supporting IPv6**.
- Clients from **Kapanga** (DC startup) and **Econf** (France Telecom) meet our requirements while the leading vendors such as Tandberg and Polycom are not.
- We have found **interoperability** between Kapanga and Econf clients for P2P calls. Thus, we will unlikely be constricted to any particular vendor product in using IPv6 videophones.



Next Steps ...

For Pilot, we will:

- Employ **serverless** implementation.
- Extend IPv6 to residential homes via **tunneling** techniques.
- Start with vendors that meet our **basic requirements**.

For Service, we may:

- Offer **advanced services** with network-based solutions.
- Provide **IPv6 to the desktops** (at VAMCs).
- Expand videophone portfolio.

Backup Slides



Obstacles

- IPv6 infrastructures, VA and ISPs, are not fully in-place.
- Many videophone vendors see no market for IPv6 videophones and thus are not willing to invest in IPv6 development.
- Commercial Off The Shelf (policy).
- Buy American (policy).



Demonstrated IPv6 Advantages

- | | | |
|-----|--------------------------------|----------|
| 1. | Plentiful Addresses | Y |
| 2. | End-to-End Transparency | Y |
| 3. | Multicast with Global Reach | Possible |
| 4. | True Plug-n-Play | Y |
| 5. | Easier Network Renumbering | Possible |
| 6. | Enhanced Security | Possible |
| 7. | Standard-Based IP Mobility | Possible |
| 8. | Emerging Ad-Hoc Networking | Possible |
| 9. | Better Performance | Possible |
| 10. | Additional QoS Control | Possible |