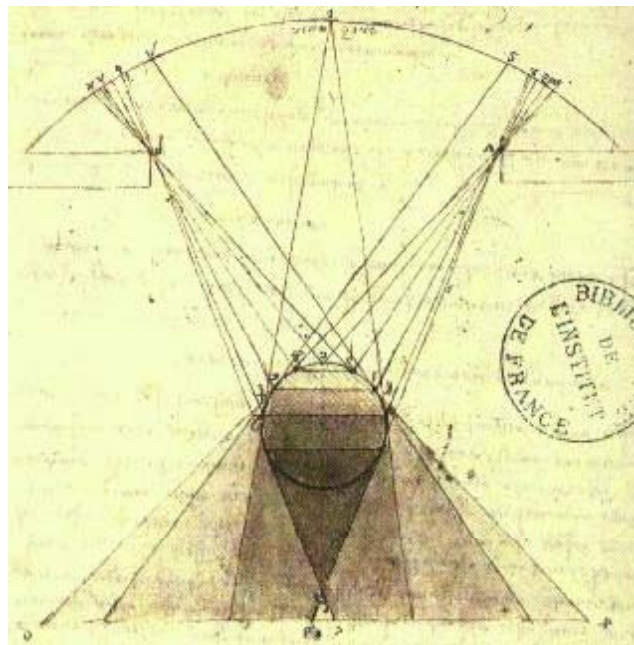


# TECHNOLOGY AND CONNECTIVITY

## El Paso County Clerk and Recorder Robert C. “Bob” Balink



Vote Center Task Force Committee Meeting  
February 24<sup>th</sup>, 2005

# TECHNOLOGY AND CONNECTIVITY

## TECHNOLOGY:

- I. **Tabulation**
  - I. **Existing Equipment and Processes**
- II. **Voter Registration**
  - I. **Computer Needs**
  - II. **Early Voting Comparison**
  - III. **Provisional Ballot Stations**

## CONNECTIVITY:

- I. **Tabulation**
  - I. **Existing Equipment and Processes**
- II. **Voter Registration**
  - I. **Dial-up PPP/CHAP**
  - II. **PPTP/IPSEC 1024 Bit Encryption**
  - III. **Frame / T1**

# TECHNOLOGY AND CONNECTIVITY

## **TECHNOLOGY:** **VOTER REGISTRATION**

### **Computer Needs (basic list):**

- Pentium III – 450 Mhz or Better
- 128MB Ram or Better
- 4.0GB Hard Drive or Better
- 15” VGA Monitor at a minimum
- 104 Key Keyboard
- 2 button mouse (minimum)
- Need computer for 3 weeks

**We are anticipating needing 300 computers for vote centers.**

# TECHNOLOGY AND CONNECTIVITY

## What we're going to do:

- Wipe the Hard drive
- Install our Network Operating System (2000, XPpro, NT)
- Install our Enterprise Virus monitoring software
- Install necessary client software
- Add the computer to our Domain
- Test in-house
- Deploy
- Test Deployed
- Return to office post-election
- Double Wipe Hard Drive before return

# TECHNOLOGY AND CONNECTIVITY

## How this is different from your home computer:

- **Network Operating Systems**
- **Enterprise level Virus Protection**
- **Domain Registration**

# TECHNOLOGY AND CONNECTIVITY

## **TECHNOLOGY:** **VOTER REGISTRATION**

### **Early Voting Comparison:**

- **Proposed Equipment Matches Current Early Voting Environment.**

# TECHNOLOGY AND CONNECTIVITY

## **TECHNOLOGY:** **VOTER REGISTRATION**

### **Provisional Ballot Stations**

- Same requirements for workstations as Pollbook Stations.
- 2 stations per vote center
- Specifically used to search on “Locator” information

**We are anticipating needing 60 computers for vote centers.**

# TECHNOLOGY AND CONNECTIVITY

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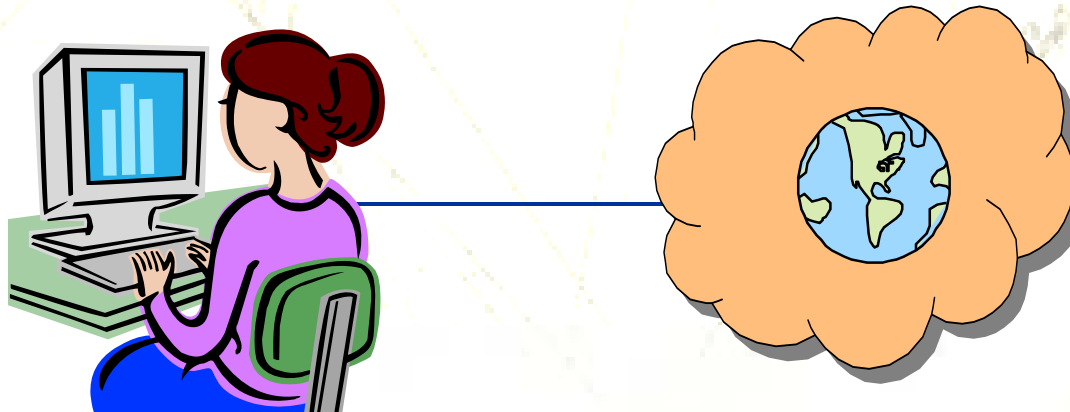
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# TECHNOLOGY AND CONNECTIVITY

## CONNECTIVITY:

### HOME ENVIRONMENT (BASIC SETUP)

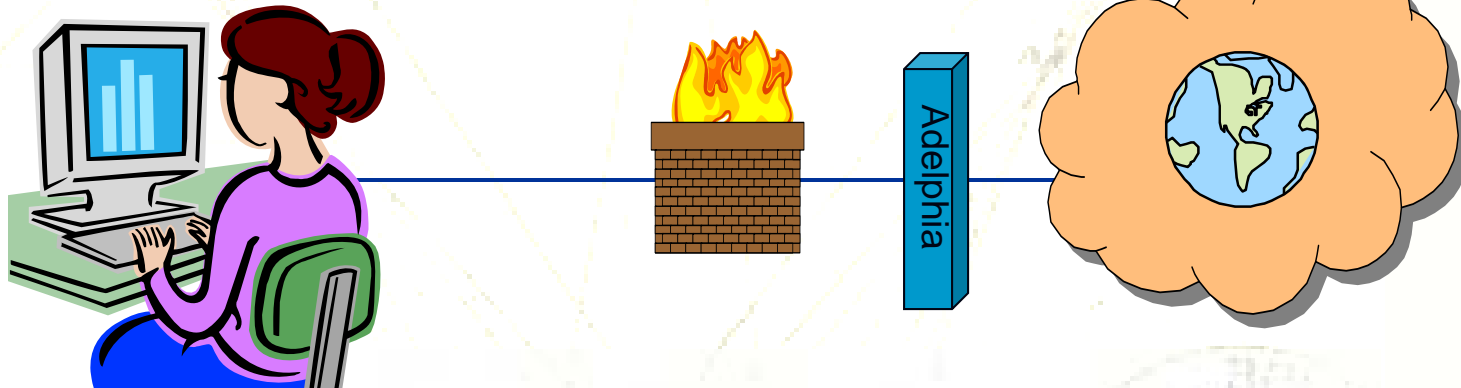


- Windows “HOME” Operating System – 95, 98, ME, XPhome, etc.
- Minimum Virus Protection (McAfee, Symmantec)
  - May not be updated
- NO Firewall protection
- NO Hijack / Spyware protection
- Computer is allowed to send and receive data from any found address on the internet.
- ROUTABLE IP Address – i.e. Your computer can be seen and found on the internet.
- No “authentication” or encryption of data between senders.
- Dial up, DSL, and some cable subscribers can fall into this.

# TECHNOLOGY AND CONNECTIVITY

## CONNECTIVITY:

### HOME ENVIRONMENT (ADVANCED SETUP)



- Windows “HOME” Operating System – 95, 98, ME, XPhome, etc.
- Minimum Virus Protection (McAfee, Symmantec)
  - Up to date
- Some Level of Firewall protection
  - Could be Software, Most Likely Un-Monitored
- Some Level of Hijack / Spyware protection
- Computer still allowed to send and receive information from any found address on the internet.
- ROUTABLE IP Address – i.e. Your computer (or your firewall) can be seen and found on the internet.
- No Authentication, limited encryption of data between senders.
- More likely to be Cable, DSL, or other broadband solutions.

# TECHNOLOGY AND CONNECTIVITY

## CONNECTIVITY:

### **VOTER REGISTRATION**

#### Dial up – PPP/CHAP

- Uses standard Computer Modem to make connection.
- “Handshake” between remote and main computers encrypted.
- Max Connection speed of 15.6kb/sec
- Non-synchronous (different speeds each direction).
- Secure, Authenticated pipe to Main Office
- Simple but very slow connection – would certainly cause long delays.
- No routers or Firewall Hardware to purchase.

# **TECHNOLOGY AND CONNECTIVITY**

## **CONNECTIVITY:**

### **VOTER REGISTRATION**

#### **PPTP/IPSEC**

- “Point to Point” Tunneling Protocol
- Internet Protocol Security Tunneling
- Can be implemented over ANY Broadband connection (DSL, Cable, etc.)
- Max Connection speed of 1,200kb/sec
- Synchronous connection can be established.
- Secure, Authenticated pipe to Main Office
- Establishes a “true” business network diagram
- Can use existing Broadband connection if in place
- Method used for current Early Voting Sites.

# TECHNOLOGY AND CONNECTIVITY

## CONNECTIVITY:

### **VOTER REGISTRATION**

#### FRAME / T1

- Internet Protocol Security Tunneling (IPSEC)
- Incorporates a standard Copper Pair of phone cables proportioned off for higher bandwidth
- Max Connection speed of 1,400kb/sec
- Synchronous connection can be established.
- Secure, Authenticated pipe to Main Office
- Establishes a “true” business network diagram
- Additional Line Costs and setup time required
- Not available at all locations – limited by distance to C.O.

# TECHNOLOGY AND CONNECTIVITY

## ACRONYM'S DEFINED:

- “2000, XPpro, NT” – certified by Microsoft to be “Network” or “Professional” use operating systems. The standard for business use, not often found in Home Environments.
- 3DES - “Triple DES” – Data Encryption Standard – uses a three tiered 64 bit encryption key.
- DSL – Digital Subscriber Line – a method of packing large data streams onto standard copper pair phone lines.
- DMZ – De-Militarized Zone. A space for a “decoy” server that sits outside of your firewall to detract potential hackers from your real network servers that sit behind your firewall.
- GB – a Giga-Byte of data (1,024 Mega-bytes of data)
- IP Address – a “Quad Octet” set of identifying numbers for network addressing and locating. Current use is IP Version 4 (IPV4)
- ISAKMP – Internet Security Association and Key Management Protocol. SHA-1 – Specific HASH Algorithm used in certain Routers to configure encryption routes – same algorithm must be used on both ends of encrypted route.
- MB – a Mega Byte of data (1,000,000 bytes of data)
- Non Routable IP Address – an IP Address that is non-traceable to the internet. These numbers begin with 10.x.x.x, or 192.x.x.x.
- SSL – Secure Socket Layer – a protocol developed to transmit private information over the internet using private key encryption.