

1 ☐ **Disaster Recovery**

2 ☐

3 ☐

4 ☐

5 ☐

6 ☐ **Disasters Caused by People**

- War
- Terrorism
- Vandalism
  - Especially disgruntled employees

7 ☐ ***Effect of Disaster***

- *Loss or damage of hardware*
- *Loss or damage of facility*
- *Loss of electrical power*
- *Loss of network connectivity*

8 ☐ ***Definitions***

9 ☐ **Priorities**

- People
- Systems
- Networks
- Information
- Facilities

10 ☐ **DR Planning Process**

11 ☐ **Recovery Approaches Differ**

12 ☐ **Lucent Business Areas**

- Wireline
  - Complete Recovery Program
  - Includes hardware replacement
- Information Systems and Internet
  - DR Planning Services
  - Information Security Consulting

13 ☐ **Data Center Recovery Considerations**

- Wide variety of components
- High flexibility on location
- Simple external connectivity

14 ☐ ***Technology Trend: Decentralization***

- Analogy: Electric motors

- 19<sup>th</sup> Century – centralized power source
- Early 20<sup>th</sup> C. – spread of handheld appliances
- Late 20<sup>th</sup> C. – micro motors
- Increasing sophistication of end points
  - Computing – mainframe migrates to client server
  - Networking – growth of Internet
  - Telecom – intelligence moving to end points

#### 15 ☐ **History of Connectivity**

- **Point to Point**
  - *Simple & Reliable*
  - *Does not scale*
- **Switched**
  - *Flexible & efficient*
  - *Scales*
  - *Multiple points of failure*
- **Bus**
  - *Potential for self-healing*
  - *Requires intelligent endpoints*
  - *SONET & Wireless*

#### 16 ☐ **Switched Telecom**

##### **Failure Points**

- Central Office
- The wires

#### 17 ☐ **Wireline Recovery Goal**

- Restore Dial Tone

#### 18 ☐ **Central Office Reality**

- *Limited external redundancy possibilities*
- *Everything revolves around the switch*
  - *Internal redundancies in switch*
  - *UPS*
- *If you lose the CO, you're in trouble*

#### 19 ☐ **Wireline Recovery Considerations**

- Very expensive component
- Must use existing location
- Complex rewiring task

#### 20 ☐ **Lucent Dialtone Recovery Summary**

- *Customer call initiated*
- *EDR checklist*
- *EDR response*
- *Recovery team assembled*
- *Recovery performed*
- *Postmortem*

21 ☐ **Checklist Process**

- *Customer phones support*
- *Call center staff follows formal process*
- *Data collected for DR team specialists*

22 ☐ **EDR Response**

- *Establishes internal bridge*
- *5 experts discuss checklist immediately*
- *Larger SWAT team brought into bridge*
- *Bring customer into bridge within 2 hours*
- *Dispatch team*
- *Dispatch temporary switch*
- *Dialtone recovery*

23 ☐ **Recovery Team**

- **Manufacturing**
  - Switches, Power Components, Cables
- **Installation & Repair**
  - Located throughout the country
  - Cream of the crop
- **DR Specialists**

24 ☐ **Recovery Process**

- **Trained team sent to customer site**
- **Replacement hardware air freighted**
- **Temporary repairs effected**
  - Round the clock effort
- **Critical dialtones restored**

25 ☐ **Typical Situations**

- **Never encounter 'Smoking holes in ground'**
  - If so, restoration would take weeks, not months
- **Floods, however, are common**
  - Can't effect restoration until water subsides
- **Equipment replacement**
  - A few days

26 ☐ **Talk to your Phone Company**

- **Visit your CO**
  - Ask about their DR plans
- **Ensure that you are high on their priority list**
  - You support multiple telco customers
- **Ask them for help in assessing connectivity**
- **State PUCO**

- They should be your friend & champion
- They regulate & control telco activities
- Recourse when telco refuses to see you

## 27 **Electrical Power Options**

- **Multiple connections to grid**
  - Doesn't help in widespread failures
- **UPS (battery backup)**
  - 20 minutes to several hours
- **Generator**
  - Several days of fuel
  - Service contract for replenishment
  - Works in conjunction with UPS

28