Modem Bonding: Bringing MODEMS Together

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Modem Principles

- The term: MODulator DEModulator

- Transfer Methods
  - Synchronous
  - Asynchronous

- Data transfer Protocols
  - ZMODEM
  - XMODEM
Different Transfer Methods

- ADSL, Cable, ISDN
  - How Do They Work

![Diagram showing comparison between Cable, ADSL, and ISDN]
Different Transfer Methods Continued

- ADSL, Cable, ISDN
  - How Much Do They Cost
Bonding Principles

- Based on ISDN Practices

- Multiple PPP
  - Cisco: Multichasis Multilink PPP
  - Ascend: Multichannel Protocol Plus

- What You Need
  - Multiple Modems
  - Multiple phone lines
  - Good ISP
Bonding Technologies

- **Software**
  - Diamond Multimedia: Shotgun
  - Sygate: NetRocker
  - Microsoft’s Dial-up 1.2 (Win95)

- **Hardware**
  - Transcend
  - Boca Research: Dynamic Duo
  - Diamond: SupraSonic II
Findings

- What Technology I Used to Bond
  - Win95 Dial-Up Networking 1.2
  - Win98 Multiple PPP
  - 2 28.8Kbps modems 2 14.4 Kbps modems

- What File Types I Tested
  - Text, Executable, and Fully Compressed

- What Benchmark Utility I Used
  - NetMedic Pro
Findings Cont.

Performance

- Text
- Executable
- Compressed

Single
Bonded
The Future of Connectivity

- Bonded Analog Modems?
  - New medium is inevitable

- ISDN, Cable, or ADSL?
  - Certainly possible