

# Filling the Gap

Between Vendor & User Practice

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# What gap?

- Vendors restrict access to licensed resources by institutional IP address


**Libraries are providing proxy servers or virtual private networks to fill the gap**

- Many institutional affiliated users use computers without an institutional IP address



# Why is the gap important?

- Users want personal control, self-sufficiency, & remote, easy, convenient access
  - At least half of academic work is remote use
  - Low service adequacy gap (perceived – minimum)
  - Large service superiority gap (desired – perceived)
- Users perceive licensing restrictions as barrier to successful use of library resources



# July 2002 CLIR Survey of Proxy Server & VPN Use

- DLF, ULG, & Oberlin libraries
- 55% response rate
- 92% run a proxy server
- 30% run or are testing VPN

	Proxy Server	VPN
46% Liberal arts colleges	85%	18%
30% Private universities	100%	38%
13% Public universities	100%	31%
6% Other	75%	75%

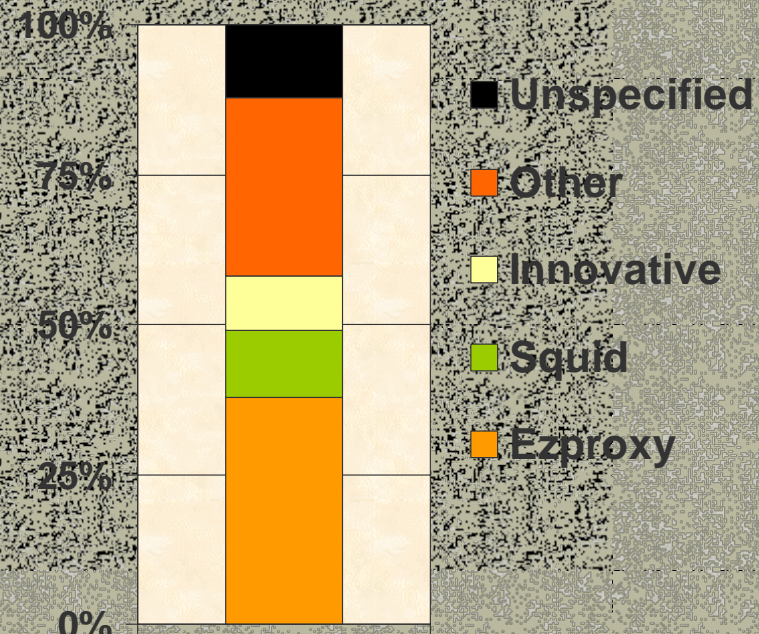
# Proxy Server Implementations

## 65 implementations

- 62% implemented by libraries
- 54% implemented by central IT
- 2% outsourced

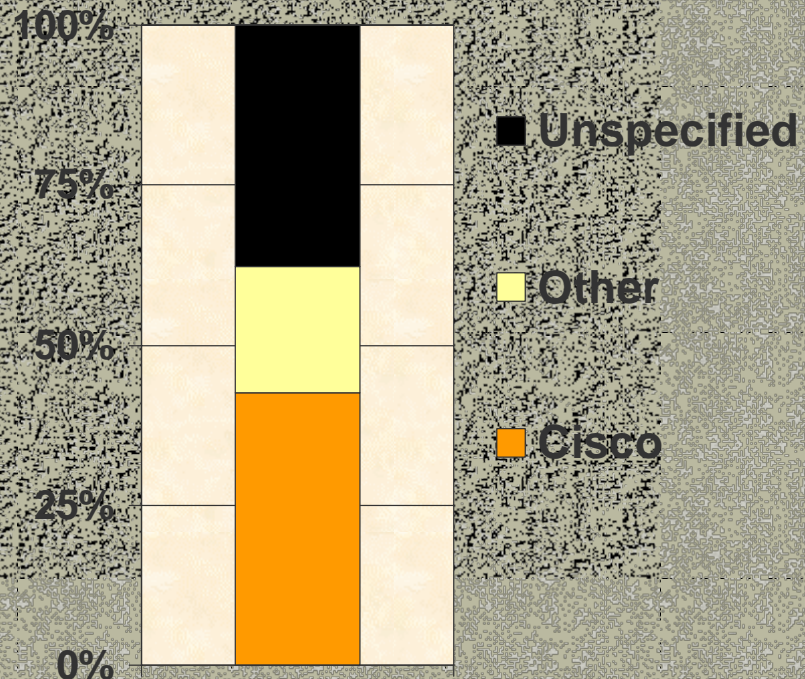
## 11 different products

- 37% run Ezproxy
- 11% run Squid
- 9% run Innovative
- 8 others named, each with 1-5 implementations



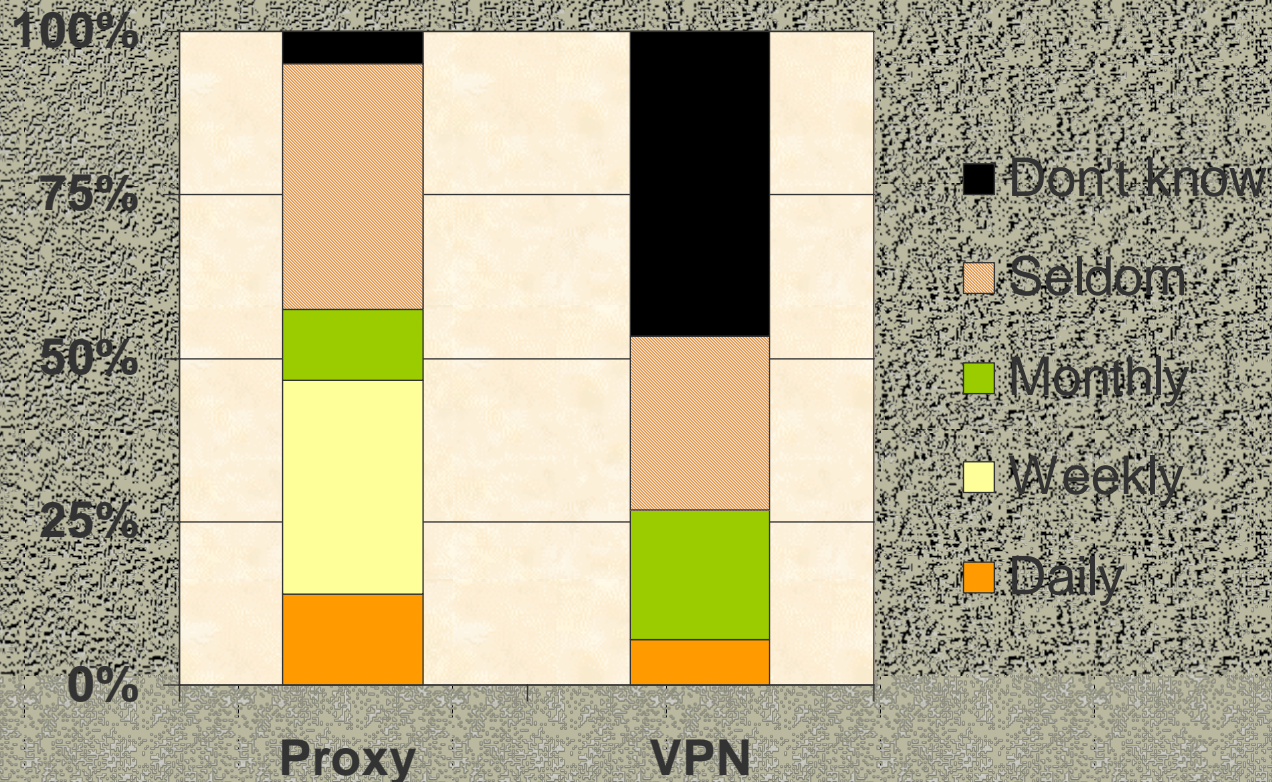
# VPN Implementations

- 16 implementations + 5 implementing or testing
  - 14% implemented by libraries
  - 95% implemented by central IT organization
- 5 different products
  - 43% Cisco
  - 4 others named, each with 1 implementation

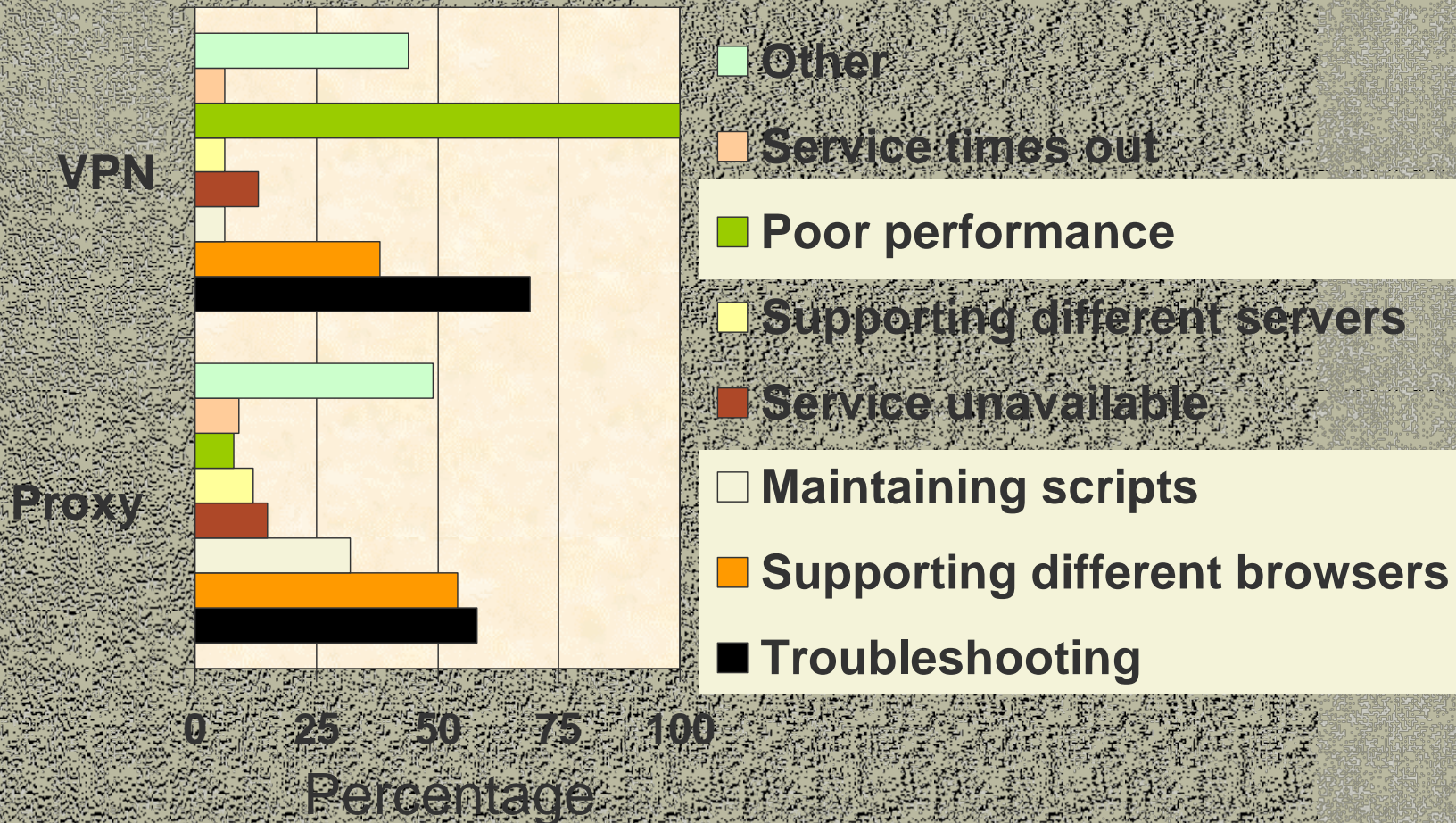


# Problem Frequencies

- 47% weekly or daily proxy server problems
- 7% weekly or daily VPN problems – **caution!**



# Problem Types







# Other Problems

## ■ Proxy server

- User errors – 15%
- Proxy configuration – 11%
- Vendor changes – 6%
- Firewalls – 6%
- ISPs – 2%
- Complexity – 2%

## ■ VPN

- ISPs – 13%
- Administration – 6%
- User errors – 6%
- Marketing – 6%
- Cost – 6%
- Macintosh – 6%



# Vendor Problems

## ■ Most frequent

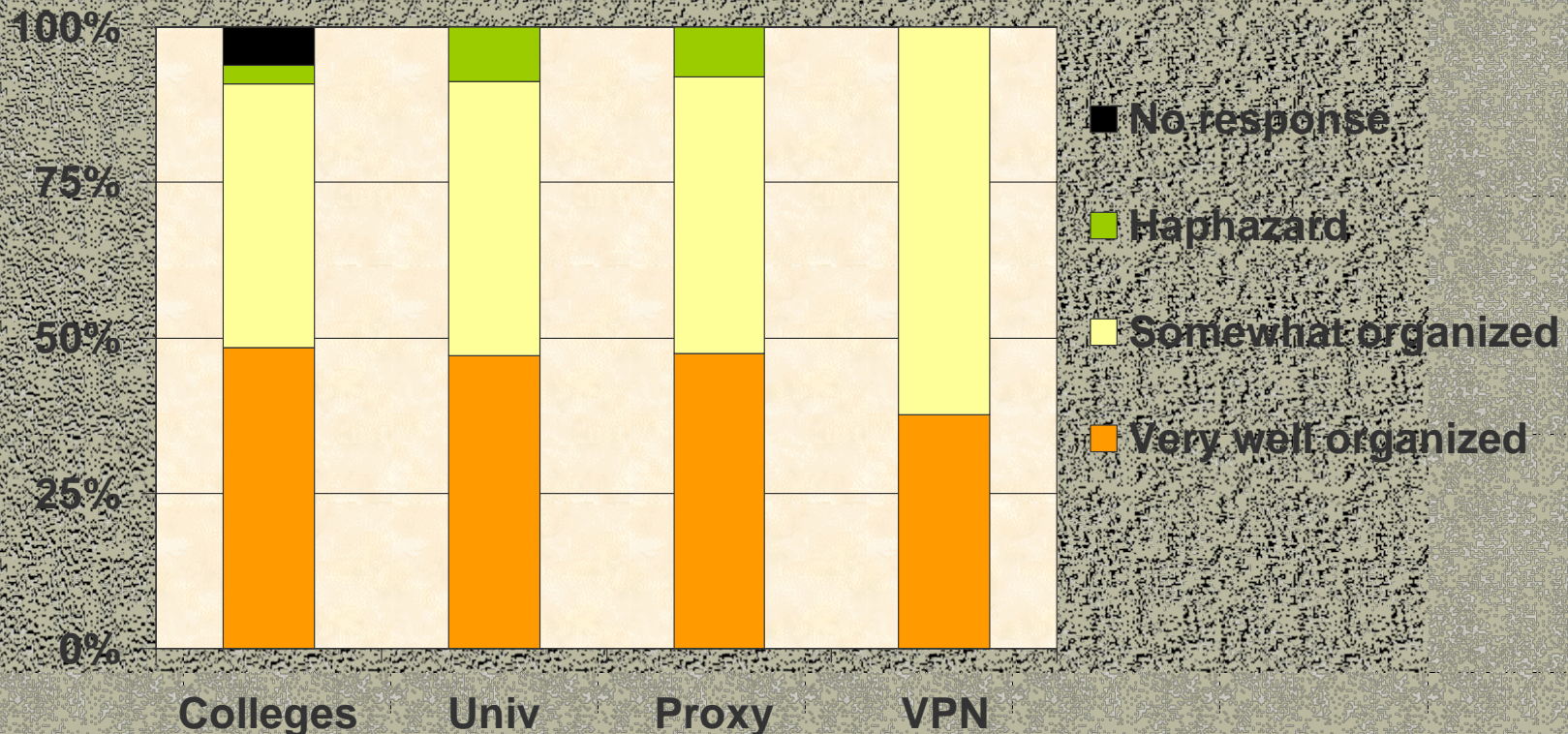
- ISI Web of Science
- Elsevier Science Direct
- ProQuest

## ■ Most difficult

- ISI Web of Science
- Lexis Nexis
- IEEE
- NetLibrary  
& Proquest

# Problem Reporting & Solving

- Over 50% is not very well organized
- 7% said downright haphazard





# Problem Reporting

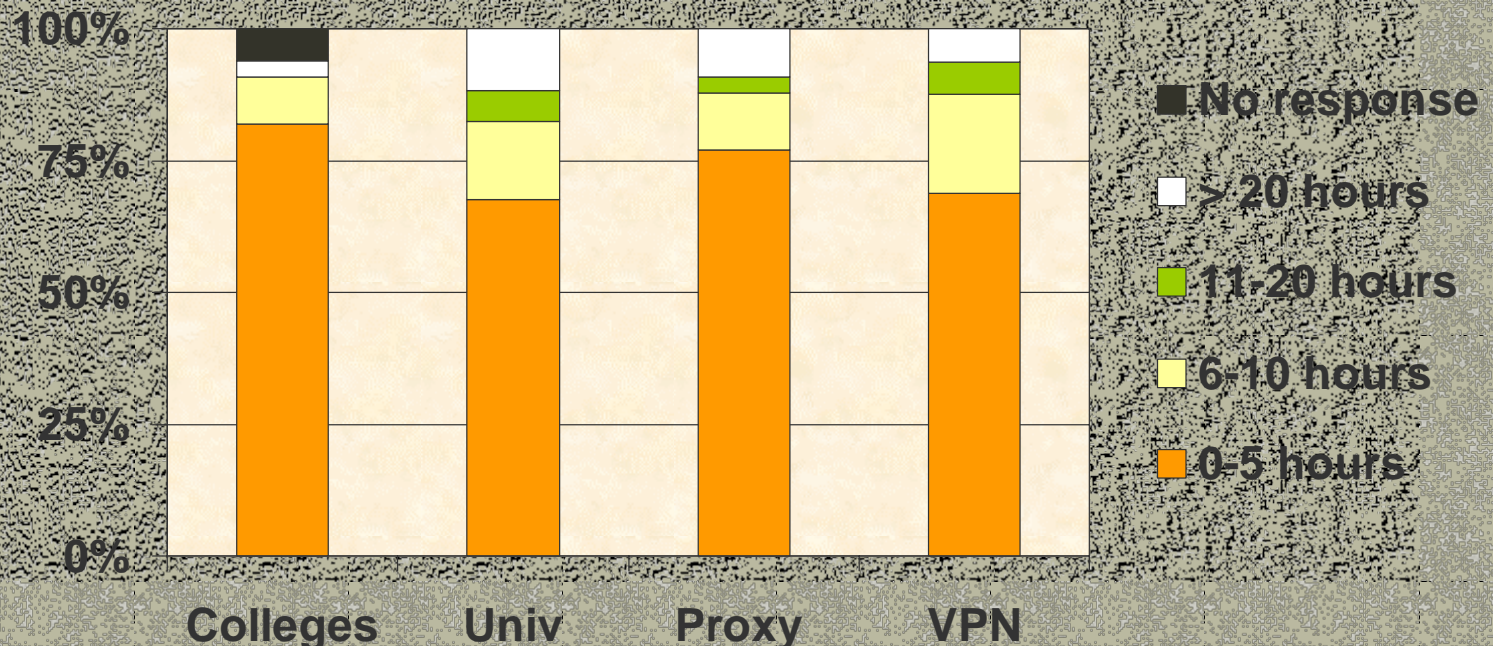
- Time to problem discovery varies
- Only 13% said find out within hours
- Email or phone calls from users or librarians
- Only 10% said find out via automatic message

## Help Desk Time

- 15% said spend 20% - 40% of help desk time
- 4% proxy sites spend 70% - 90% of time

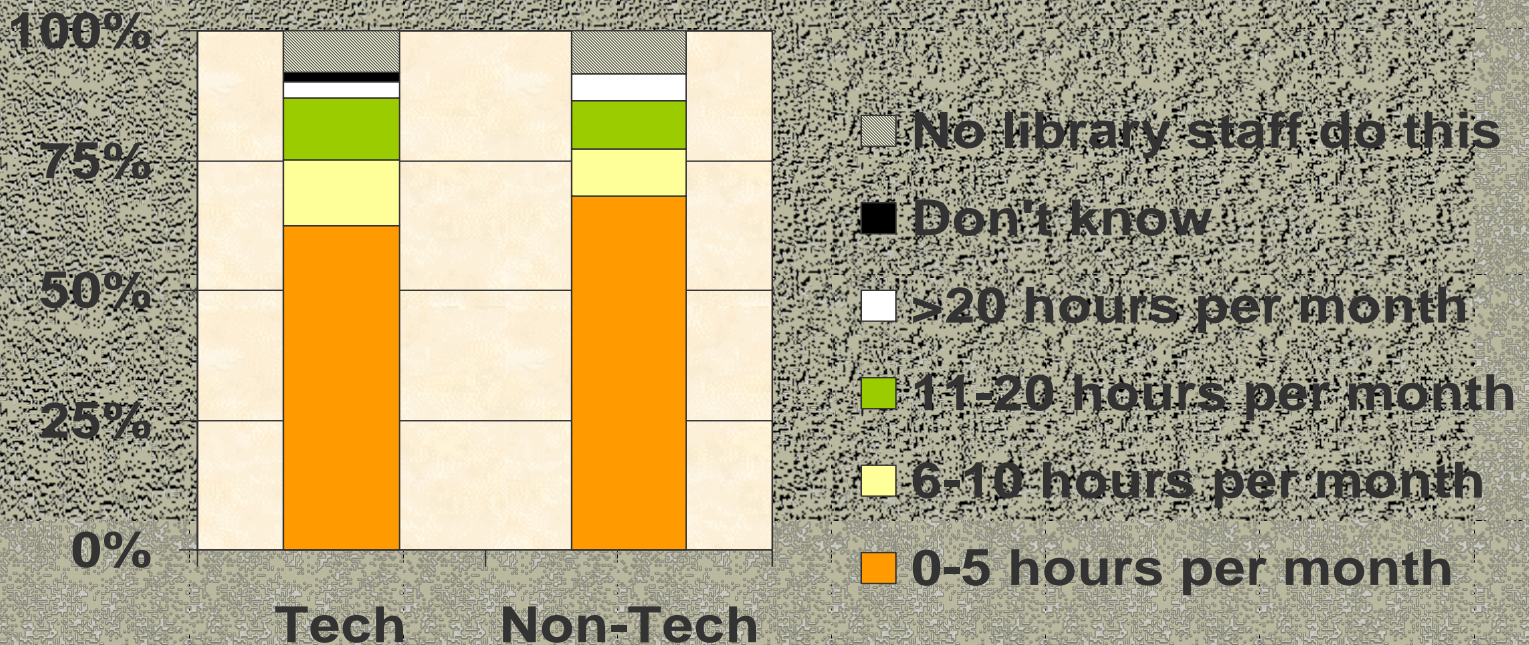
# Time Explaining to Users

- 73% said spend < 5 hours per month
- 14% spend 1 to 3 days per month
- 10% spend > 3 days per month



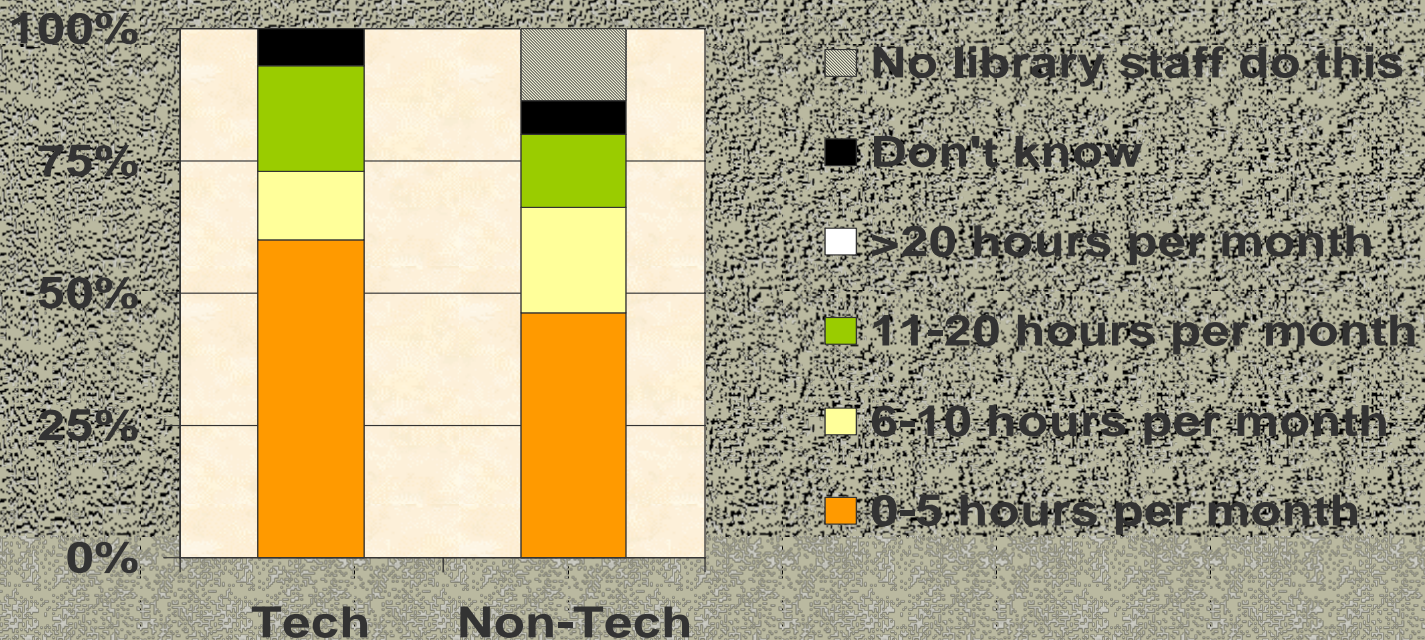
# Proxy Server Staff Time

- $\geq 60\%$  said spend  $< 1$  day per month
- 25% T - 19% NT spend 1 to 3 days per month
- 3% T - 5% NT spend  $> 3$  days per month



# VPN Staff Time

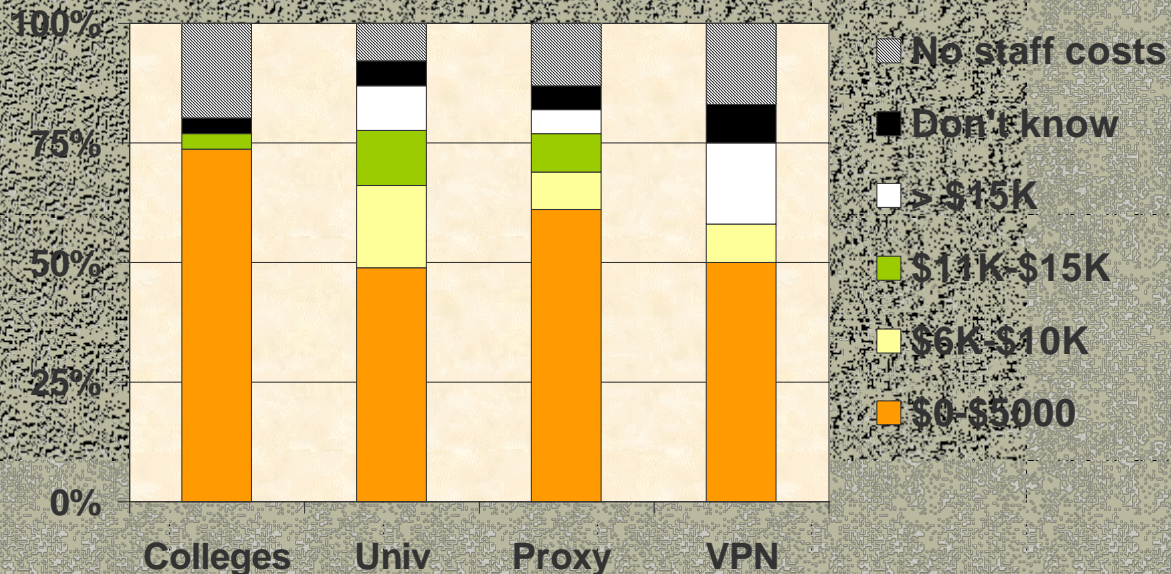
- 60% T - 47% NT said spend < 1 day per month
- 33% spend 1 to 3 days per month
- Substantial library time for IT implementations



# Annual Staff Costs

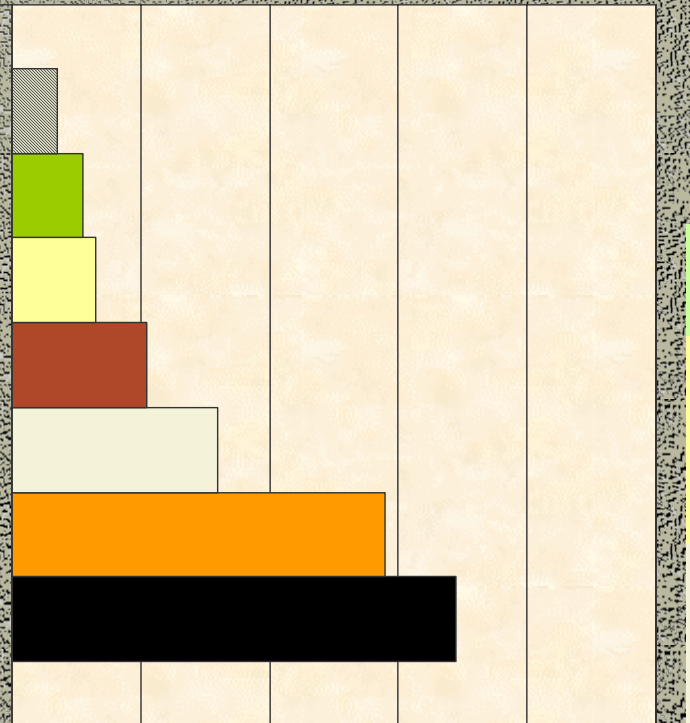
- 55% said spend  $\leq$  \$5000 per year
- 20% said spend  $>$  \$5000 per year
  - 7% said spend  $>$  \$10,000 per year
  - 6% said spend  $>$  \$15,000 per year

13% said  
no staff costs





# Negative Impacts



■ No impact

■ Other impact

■ Lower staff morale

■ Less effective resource allocation

■ Delay other projects

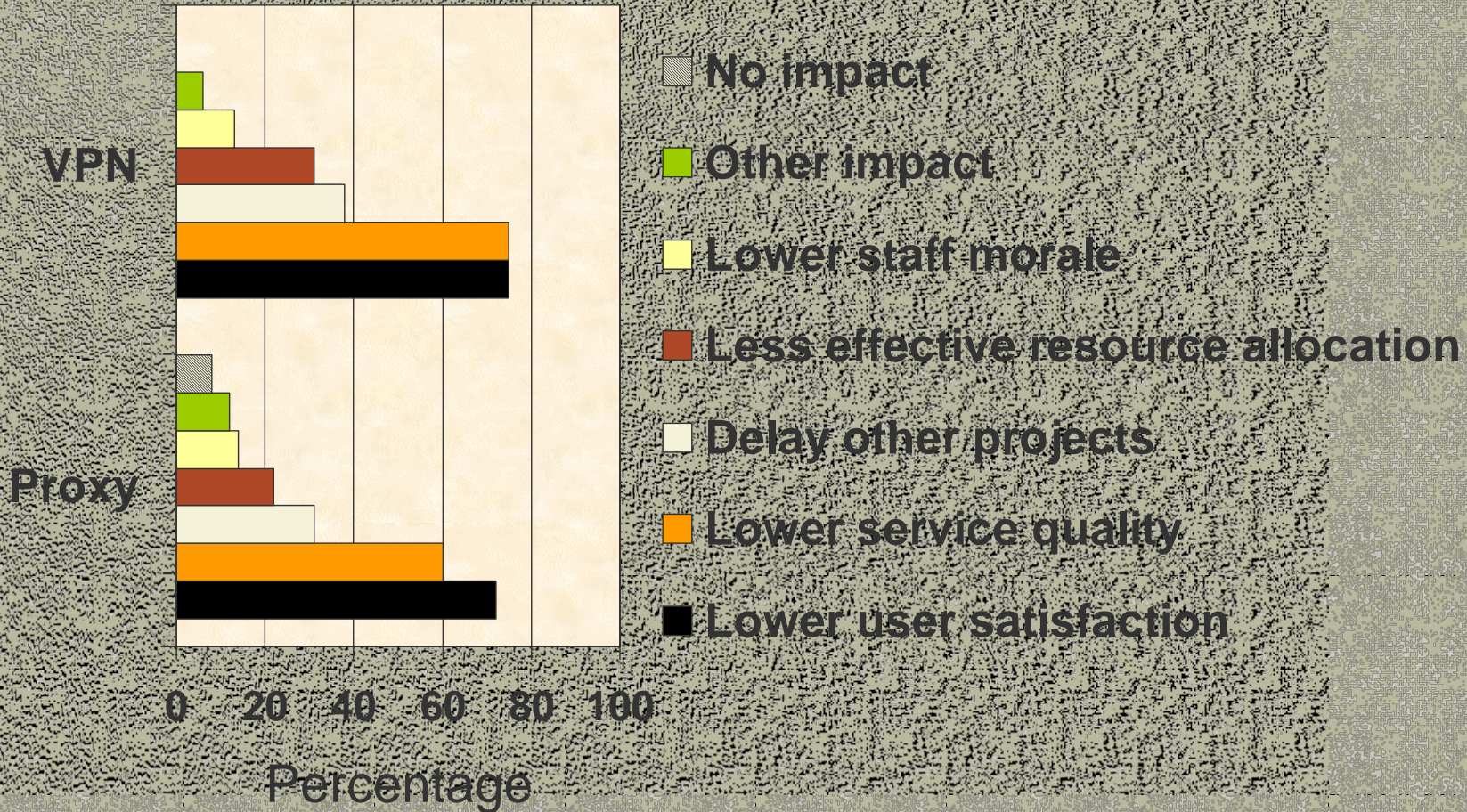
■ Lower service quality

■ Lower user satisfaction

0 20 40 60 80 100

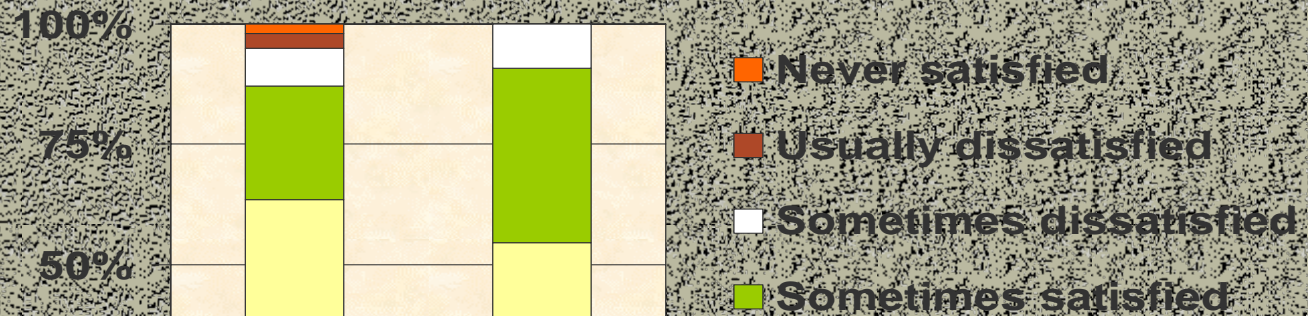
Percentage

# Negative Impacts



# Satisfaction

- 64% proxy always or usually satisfied
- 37% proxy dissatisfied or seldom satisfied
- 54% VPN always or usually satisfied
- 45% VPN dissatisfied or seldom satisfied



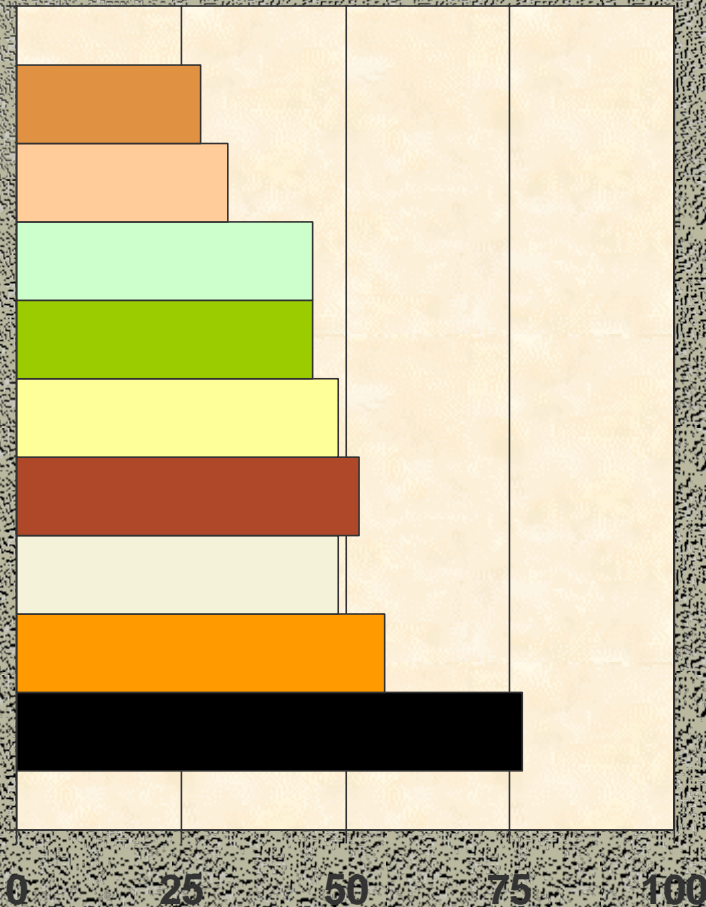
More satisfied with proxy server

Dissatisfaction is more intense with proxy server

Proxy

VPN

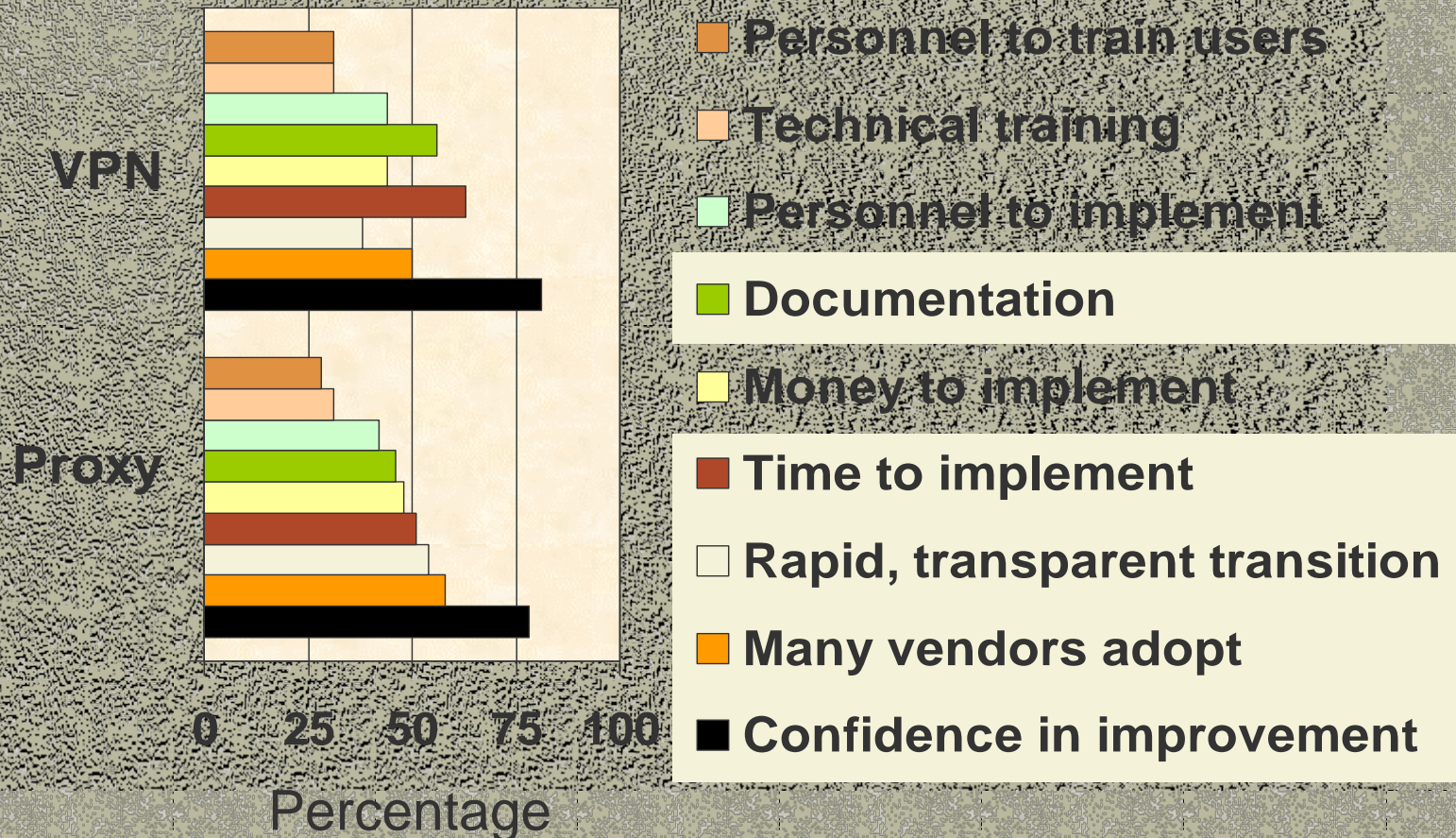
# Motivations to Change



- Personnel to train users
- Technical training
- Personnel to implement
- Documentation
- Money to implement
- Time to implement
- Rapid, transparent transition
- Many vendors adopt
- Confidence in improvement

Percentage

# Motivations to Change





# Other Requirements

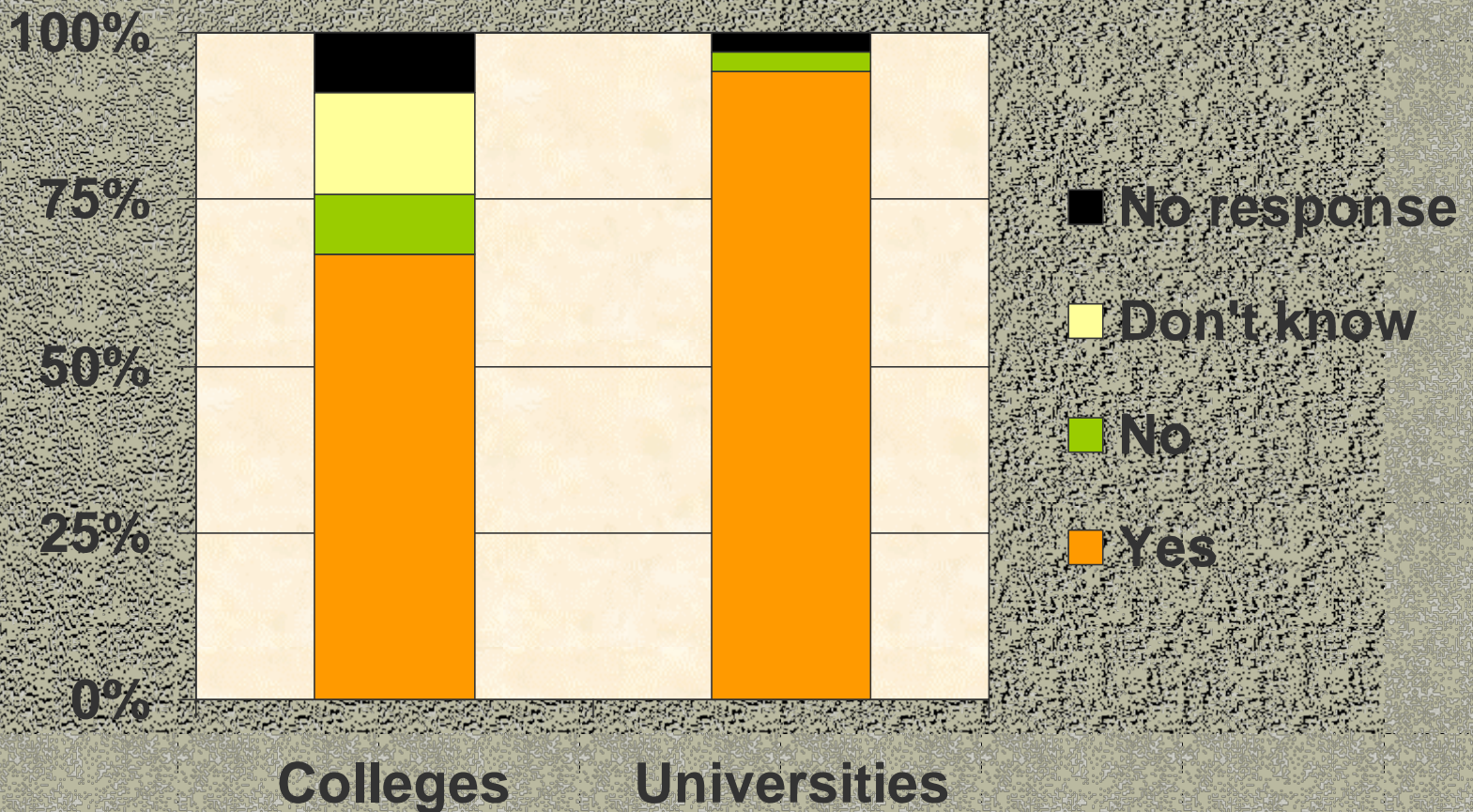
1. No user training, client installation, or browser or machine configuration
2. Easy set-up & maintenance
3. Integration with campus authentication & authorization services

## Other

- Reliable online support or support by central IT
- Support by *all* vendors
- Consensus from users

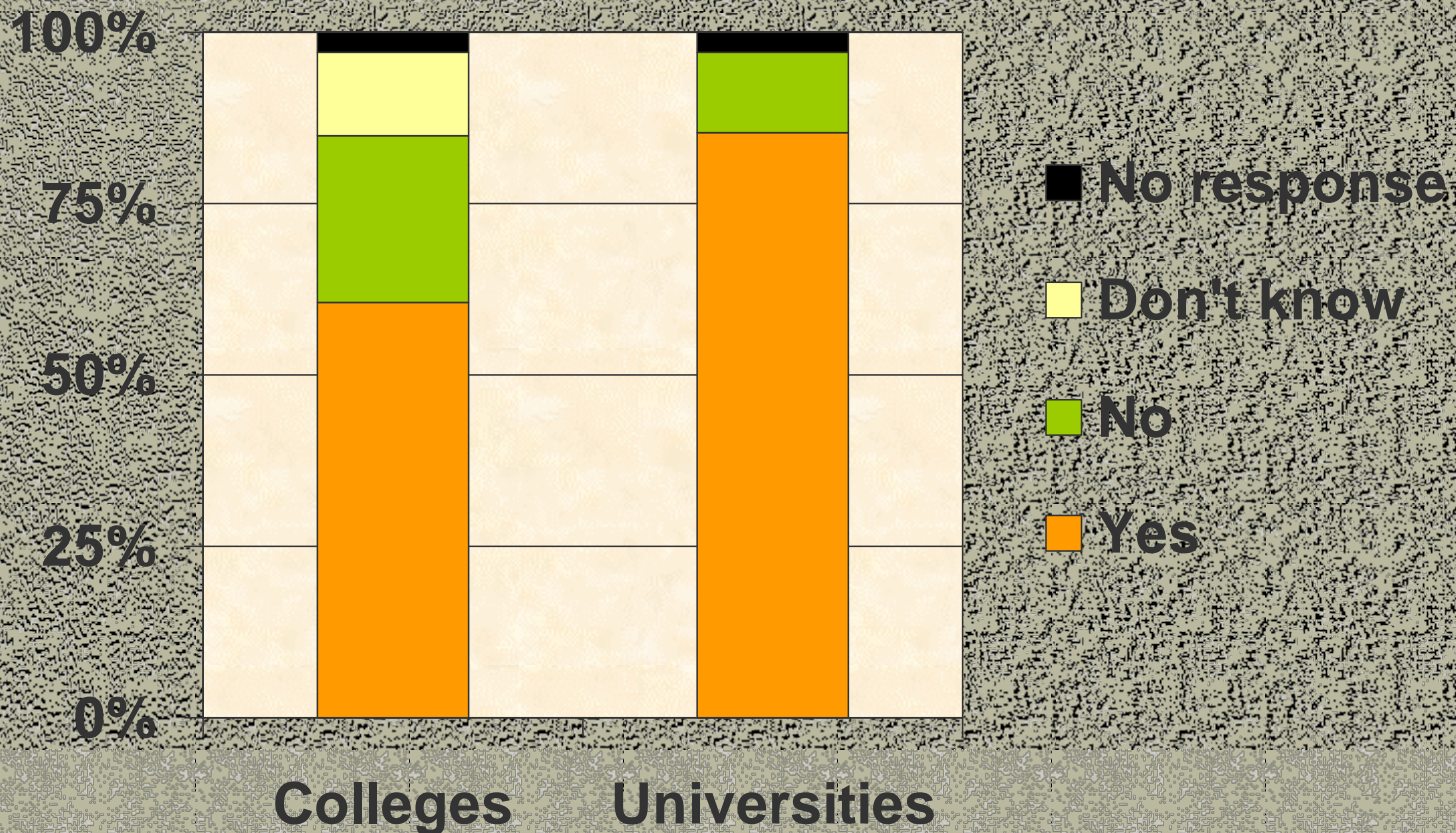
# LDAP

■ 80% have or are working on LDAP



# Single Sign-On

72% have or are working on SSO







# Conclusions

- Proxy server & VPN support are problematic & expensive
- Nevertheless, many libraries are satisfied
- Change will require a robust, widely adopted technology that takes little effort to implement, maintain, & use

# Research Question

- Why are libraries satisfied with investing in remote access services that
  - Lower user satisfaction
  - Lower service quality
  - Cause delays in other projects
  - Lead to less effective allocation of resources
- Why are libraries satisfied when users are not?





# Thank You

- DLF Forum audience
- Deanna Marcum & CLIR
- Peter Brantley
- Dale Flecker