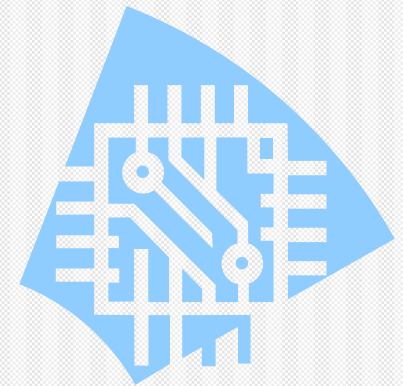


Intro to Computing at Lamont-Doherty Earth Observatory



6/2/04

By Mahdad Parsi

Intro to Computing at Lamont-Doherty Earth Observatory

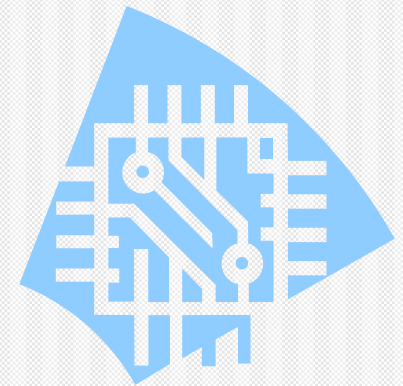
<http://www.ldeo.columbia.edu/network/computing.pdf>

Part 1: Network, Facilities, and Support

Part 2: Login, Mail, News, Remote

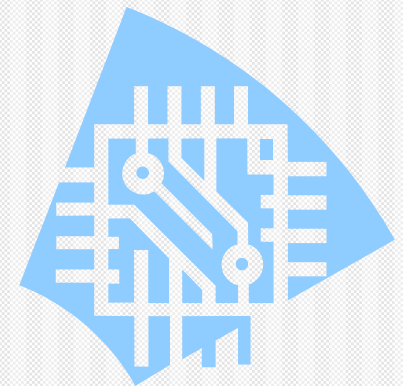
Part 3: Unix Tutorial

Part 4: Data Processing Software

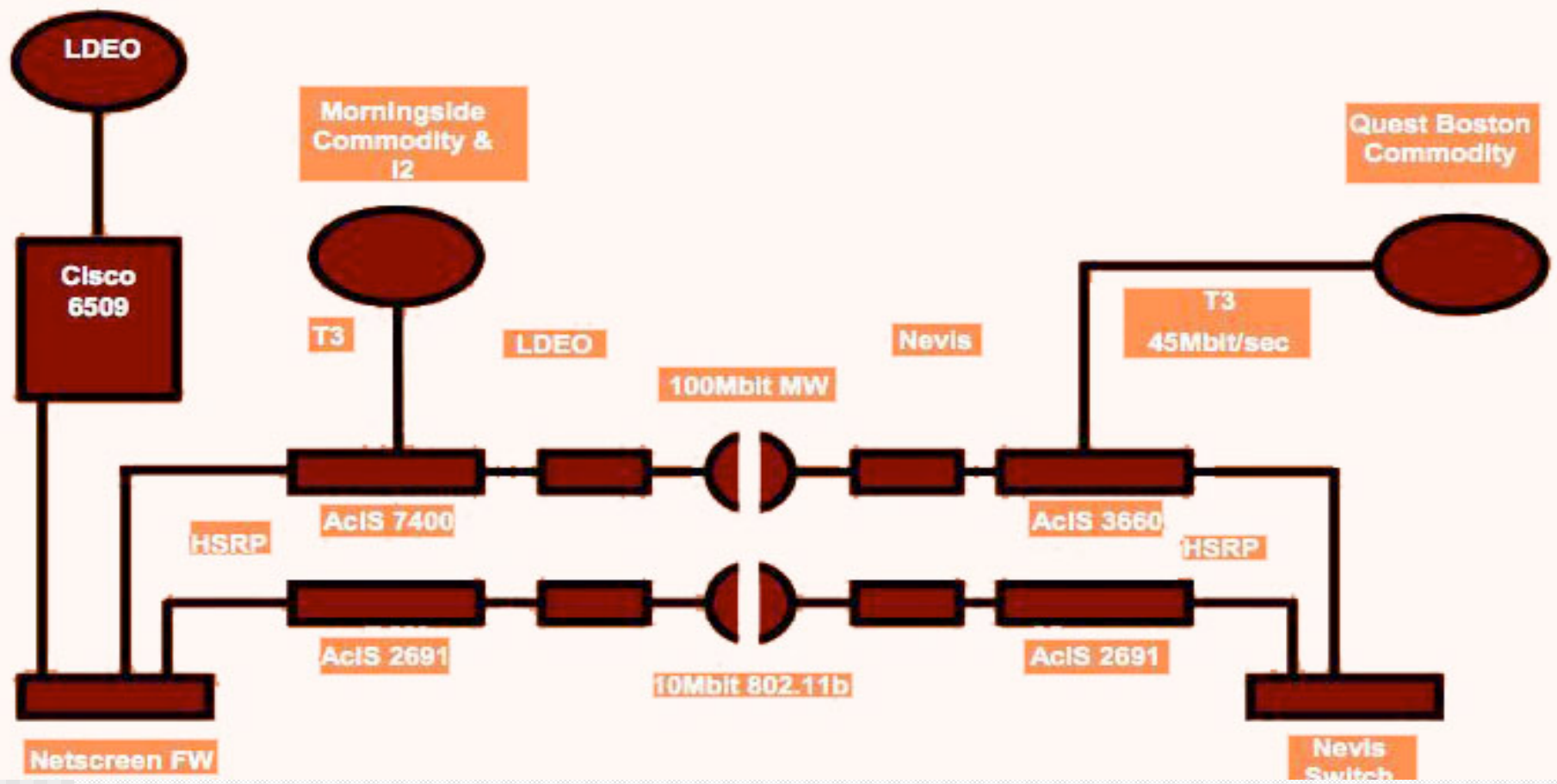


Intro to Computing at Lamont-Doherty Earth Observatory

Part 1: Network, Facilities, and Support



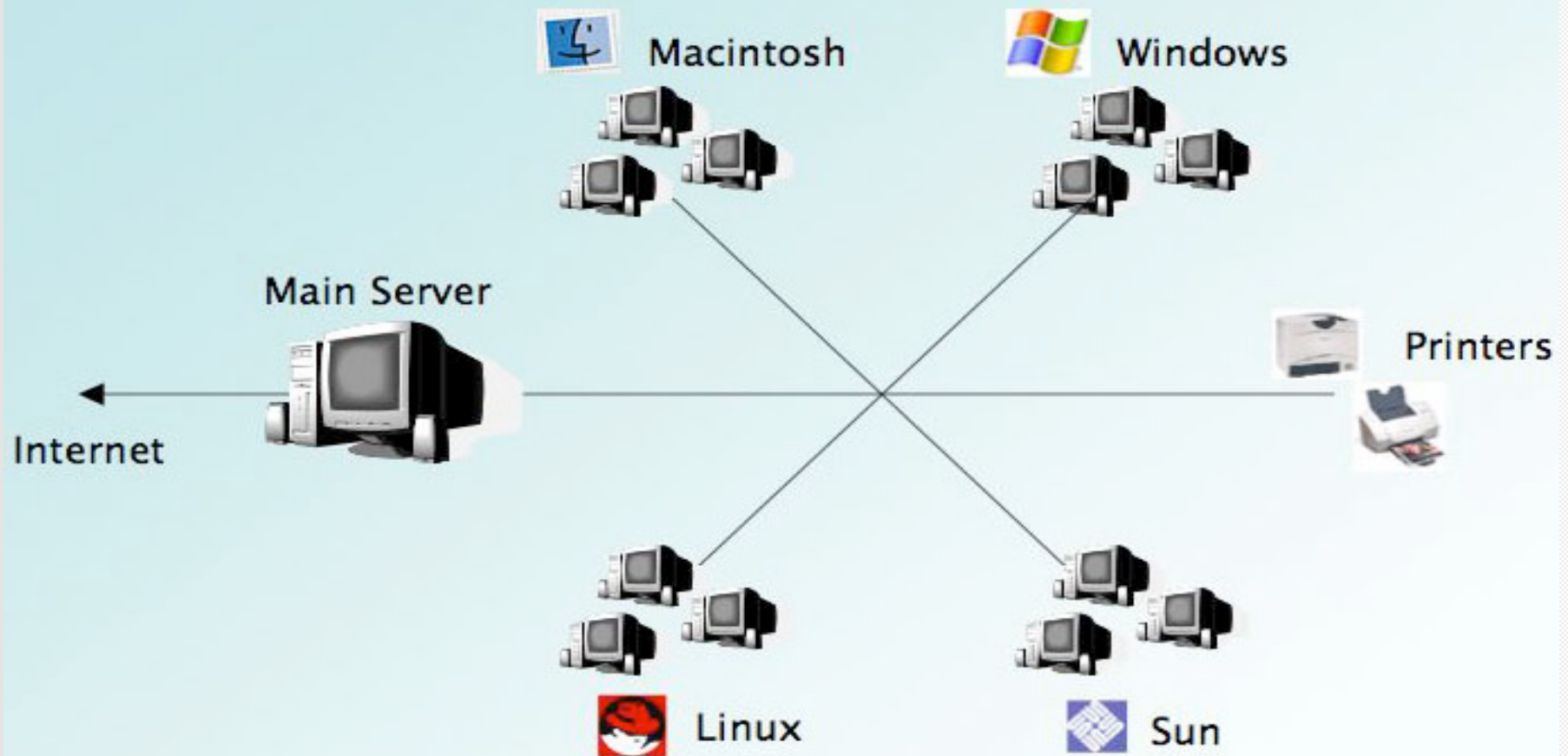
LDEO Wide Area Network Configuration



6/2/04

By Mahdad Parsi

Local Area Network (Heterogeneous)



Primary Servers/Services

- Web (HTTP) www.Ideo.columbia.edu
- File Transfer (FTP) [ftp.Ideo.columbia.edu](ftp://Ideo.columbia.edu)
- Email: In (POP3) pop.Ideo.columbia.edu
In (IMAP) imap.Ideo.columbia.edu
Out (SMTP) smtp.Ideo.columbia.edu
- Web Email webmail.Ideo.columbia.edu
- Directory (LDAP) <ldap://ldap.Ideo.columbia.edu>
 - Or <http://www.Ideo.columbia.edu/Directory>
- News (NNTP) <http://news.Ideo.columbia.edu>
 - Or via a news client <news://news.Ideo.columbia.edu>

Plotting

- HP Design jet 5500 PS (60" Plotter)

- <http://www.ideo.columbia.edu/network/Hardware/HP60.shtml>

LAMONT-DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY



NO ACCESS

to
Hudson
River

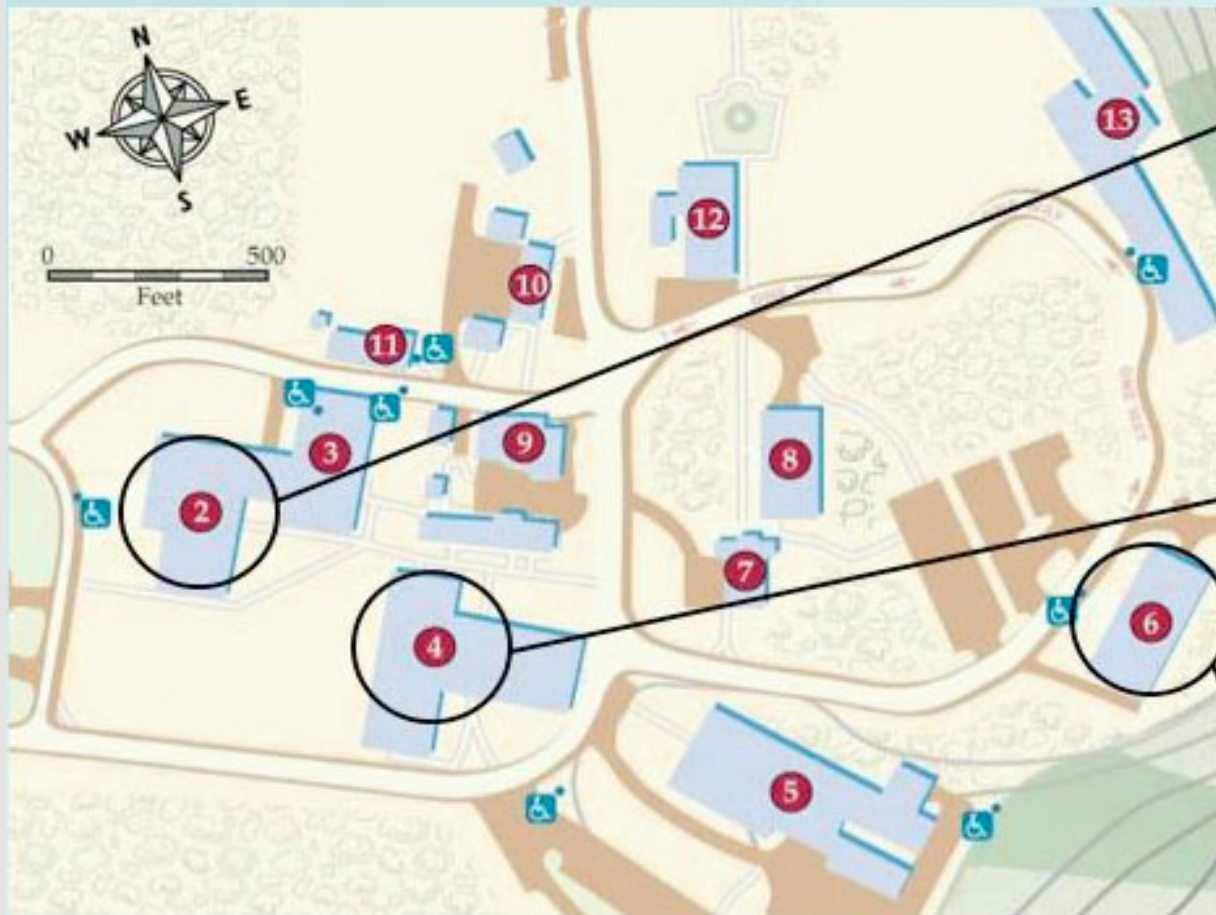
to
Front Entrance
& Route 9W

BUILDING KEY

- 1 Instrument Lab/Shipping & Receiving
- 2 Geoscience
CIESIN
Columbia Shuttle Bus
DEES
ODP
- 3 Core Lab
- 4 Marine Biology & Seismology
- 5 Geochemistry
- 6 Oceanography
- 7 Cafeteria

- 8 Administration
- 9 Buildings & Grounds
- 10 Borehole Geophysics
- 11 Paleomagnetic Lab
- 12 Tree Ring Lab & Greenhouse
- 13 Monell Building
IRI
LDEO Directorate
- 14 Lamont Hall
Library
External relations
Publications

Public Computing Labs



Geoscience 204:

Macs, Windows, Suns
Zip Drives
Wide-Format Scanner
Slide Scanner
CD Writers
Digitizer
Laser Printer (B&W)
Dye Sub Printer
Projector

Seismology 114:

Mac, Suns
Slide Printer
Laser Printers (B&W, Color)
Wide-Format Printer
Scanner

Oceanography 108:

Macs, Windows, Suns
Zip Drives
Laser Printers (B&W, Color)
Scanner
CD Writers

LDEO Wireless Map



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LDEO Wireless

- Wireless network covers all major areas of LDEO campus.
- Wireless card is required for your laptop
- Connection Parameters
 - *Connection Type: DHCP*
 - *SSID: LDEO-wireless*

Announcements

- Read <http://news.Ideo.columbia.edu>
- Calendar of Events:
 - <http://www.Ideo.columbia.edu/Calendar>
- Subscribe to Lamont seminar announcements by sending an email to
 - majordomo@Ideo.columbia.edu with Subject: Request and Body:
Subscribe event-I your_email_address@Ideo.columbia.edu
- Subscribe to computing announcements
 - Subscribe computing-I
your_email_address@Ideo.columbia.edu

Announcements (cont.)

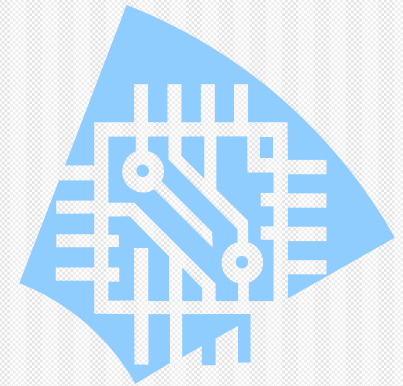
- Subscribe to Director's weekly report by sending an email to
 - majordomo@Ideo.columbia.edu with Subject: Request and Body: Subscribe Iamont-I your_email_address@Ideo.columbia.edu
- Soccer: <http://www.Ideo.columbia.edu/soccer>
- TGIF
- Volley Ball / Basket Ball

Computer Support Contact

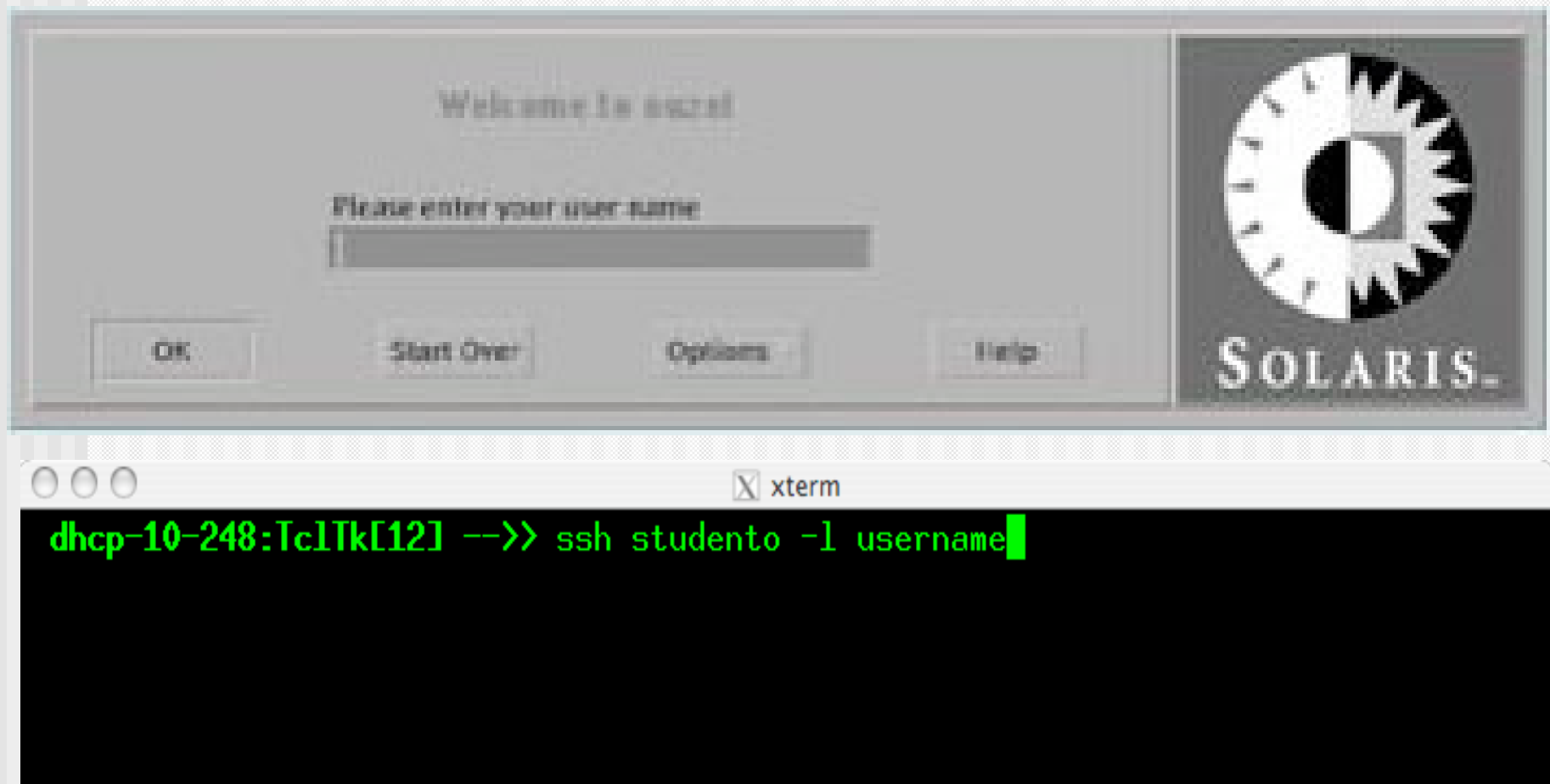
- Email us at
 - request@ldeo.columbia.edu
- Web Pages - Network URL
 - <http://www.ldeo.columbia.edu/network>
- Phone call for network status
 - (845) 365-8181 or X8181 at LDEO
- Web related questions or problems to
 - webmaster@ldeo.columbia.edu

Intro to Computing at Lamont-Doherty Earth Observatory

Part 2: Login, Mail, News, and remote connection



Login



Login (cont.)

- Login: mahdad
- Passwd: abcd&efg
- Problems? Typing errors, or Cap Lock is on
- Change Password go the network URL
 - <http://www.ideo.columbia.edu/cgi-bin.ssl/passwd/passwdCGI.cgi>

Mail (imap, pop)

■ Incoming Email:

- In (POP3) pop.ldeo.columbia.edu OR
- In (IMAP) imap.ldeo.columbia.edu

■ Outgoing

- Out (SMTP) smtp.ldeo.columbia.edu

■ Unix Mail Utilities

- pine, dtmail, mailx

■ Desktop Mail Agents

- Netscape Mail, Eudora, Mac Mail, Outlook, Mulberry

■ Web Accessed Mail (http protocol)

- <http://webmail.ldeo.columbia.edu>

Mail - Pine

- Unix Command: pine
- Read the Documentation:
 - <http://www.ideo.columbia.edu/network/docs/pine.shtml>

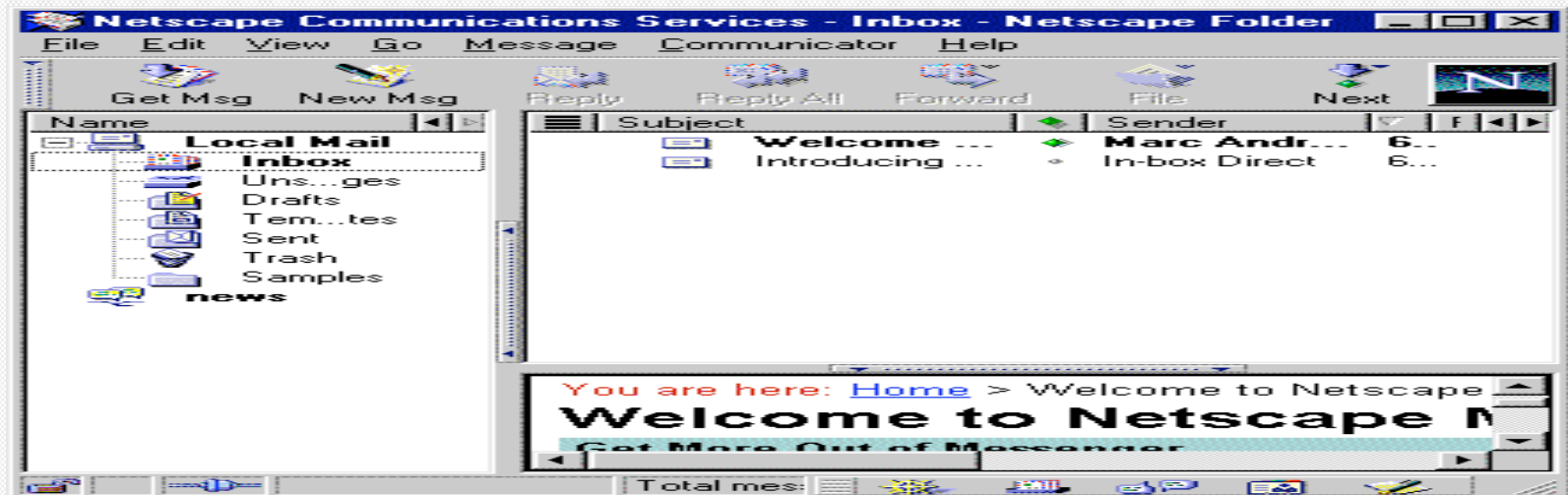
```
PINE      MESSAGE INDEX      Folder:INBOX Message 3 of 3 NEW

  D 1  Jan 10  Mu Li                      (486)  Proposal
+ A 2  Jan 10  Christine Smith              (500)  NSF
+ N 3  Jan 11  To: jhughes@art.somewhere.ed (448)  Test

? Help      < FldrList  P PrevMsg      - PrevPage  D Delete    R Reply
O OTHER CMDS > [ViewMsg] N NextMsg    Spc NextPage U Undelete  F Forward
```

Mail - Netscape

- Unix command: netscape or netscape7
- Read the Documentation:
 - <http://www.ideo.columbia.edu/network/docs/netscmail.shtml>



Mail - Eudora

- Read the Documentation

<http://www.ideo.columbia.edu/ideo/it/docs/eudoraman.pdf>

Mail - Webmail

Mail :: INBOX

https://webmail.ldeo.columbia.edu/ Google

LAMONT-DOHERTY EARTH OBSERVATORY
THE EARTH INSTITUTE AT COLUMBIA UNIVERSITY

INBOX Compose Folders Search Problem? Help Address Book Logout

Open Folder INBOX

INBOX Page 1 of 2 1 to 20 of 24 Messages

Select: Mark as: Move | Copy Messages to: Show Deleted | Purge Deleted

	#	Date	From	Subject [Thread]	Size
☒	3	05/08/03	mahdad@ldeo.columbia.edu	[No Subject]	2kb
☐	4	11/07/03	M. Parsi	Web Procedures	43kb
☐	6	11/17/03	M. Parsi	webmail server	2kb
☐	7	12/10/03	M. Parsi	[Fwd: Test Test Test]	4kb
☐	8	12/10/03	To: mahdad2@ldeo.columbia.edu	test 6	1kb
☐	9	12/10/03	To: mahdad2@ldeo.columbia.edu	test 6	1kb
☐	10	01/13/04	Super-User	test	2kb
☐	11	02/12/04	mahdad@ldeo.columbia.edu	Help Desk Registration	2kb
☐	12	02/12/04	mahdad@ldeo.columbia.edu	{100-2} Help Desk Submission	2kb
☐	13	02/12/04	mahdad@ldeo.columbia.edu	{100-4} Help Desk Submission	2kb
☐	18	04/28/04	mahdad@ldeo.columbia.edu	[No Subject]	681
☐	19	04/28/04	mahdad@ldeo.columbia.edu	[No Subject]	681
☐	20	04/28/04	mahdad@ldeo.columbia.edu	[No Subject]	681
☐	21	04/28/04	mahdad@ldeo.columbia.edu	[No Subject]	681
☐	22	04/28/04	mahdad@ldeo.columbia.edu	[No Subject]	681
☐	23	04/28/04	mahdad@ldeo.columbia.edu	[No Subject]	681
☐	29	04/28/04	mahdad@ldeo.columbia.edu	test 1	698
☐	30	04/28/04	mahdad@ldeo.columbia.edu	test 1	698
☐	32	04/28/04	mahdad@ldeo.columbia.edu	test 1	698

Horde Mail Address Book Calendar Log out

6/2/04

By Mahdad Parsi

Configure Mail Local / Remote

■ Reading and Sending e-mails

- <http://www.ideo.columbia.edu/network>
- How to configure netscape news, refer to http://www.ideo.columbia.edu/network/Technotes/HowTos/netscape_ideo

■ Remotely Reading and Sending emails via smpt auth:

- <http://www.ideo.columbia.edu/ideo/it/services/smtpauth/>

News (nntp)

■ Reading News

- Use desktop clients such as netscape news, outlook, etc.
- OR <http://news.ldeo.columbia.edu>

The screenshot shows a web browser window with the address bar displaying <http://news.ldeo.columbia.edu/indexing.php?server=news.ldeo.columbia.edu&>. The page title is "lamont". The main content is a table with columns: Num, Subject, Author, and Time. The table lists 11 news items. At the bottom of the table are navigation links: First, Prev., Next, Last, and a page indicator "Page 1 of totaling 1 page(s)". There is also a "Refresh" link. Below the table, the text "PHP News Reader v2.5.5" is visible on the left, and "Language: English" is on the right.

Num	Subject	Author	Time
11	NY Philharmonic Tickets for May 29	B Huber	05/21 08:35
10	studio apartment available near LDEO	Doug Brusa	05/20 15:43
9	Drive Slowly	Felicia Taylor	05/20 14:24
8	NSF Proposal Writing Guide	Pamela Stambaugh	05/20 14:23
7	American Ballet Theatre tickets for May 29	Adam Storeygard	05/20 14:14
6	American Ballet Theatre tickets for May 29	Adam Storeygard	05/20 14:08
5	Special MG&G Seminar - Note Change of Venue	Felicia Taylor	05/20 12:38
4	Brownbag on May 25: Land-use/Land-cover change in the ci ..	Alex de Sherbini ..	05/20 12:14
3	Thesis Proposal - Matt Mhlbachler	missy	05/20 11:58
2	Apartment needed for month of July	Ellen Went	05/20 09:27
1	Lamont Mail Server	M. Parsi	05/20 00:28

First Prev. Next Last Page 1 of totaling 1 page(s) Refresh

PHP News Reader v2.5.5 Language: English

News (nntp) Cont.

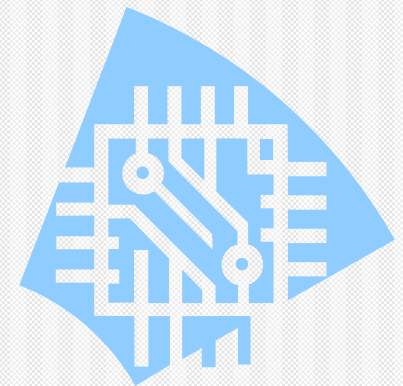
- Posting news
 - Use desktop clients such as netscape news, outlook, etc.
 - How to configure netscape news, refer to http://www.Ideo.columbia.edu/network/Technotes/HowTos/netscape_Ideo

Remote Dial in Access

- Dial-In: (845) 365-8135
 - V.90/ISDN digital MicaBlazer modems
 - requires PPP account (email request@ldeo.columbia.edu)
- TCP/IP parameters should be set automatically:
 - Gateway:129.236.2.100 (netblazer)
 - Netmask:255.255.255.0
 - DNS #1: 129.236.10.20 (chaos)
 - DNS #2:129.236.10.30 (lamont)

Intro to Computing at Lamont-Doherty Earth Observatory

Part 3: Unix Tutorial



6/2/04

By Mahdad Parsi

Unix Tutorials

■ References

- “Learning the Unix Operating System” by O'Reilly

- <http://www.oreilly.com/lunix5>

■ Website:

- http://www.columbia.edu/acis/tutor/Unixhelp/TOP_.html

Shell

- The “shell” reads and executes each command typed in the terminal window.
- Shell reads `.cshrc` file in your home directory at startup.
- Special characters:

<code>.</code>	current directory
<code>..</code>	parent directory
<code>~</code>	home directory
<code>~user</code>	user's home directory
<code>?</code>	any single character
<code>*</code>	any character string

Shell (cont.)

- Looking up commands in the online manual
 - `man command` (example: `man csh`)
- Commands and Job Control
 - `command1 | command2` “pipeline” output to input
 - `command1 > filesave` output in file
 - `command1 < fileuse` file as input
 - `command1 ; command2` commands in sequence
 - `command &` run command in background
 - `jobs` list commands in background
 - `kill %n` kill job n in background

Directories and Files

- File holds your binary data or text file.
- Directories or folders contains files and sub folders.
- Edit files with commands
 - `vi filename / emacs filename`
- View files with the commands:
 - View text file; `more filename / view filename`
 - View a PostScript file: `pageview file.ps`
 - View a graphics file: `xv file.gif, display file.gif, gimp file.jpg`

Directories and Files (cont.)

■ File permissions

- owner/group/others (rwx)
 - `ls -ls filename --> -rwxr-xr-x .... filename`

■ Change group or access permissions

- `chmod mode filename` / `chmod mode directory_name`
- `chgrp groupname filename` / `chgrp groupname directory_name`
- `chmod +x filename` / `chmod g+r filename` / `chmod o-w filename`
- `chmod 755 filename`

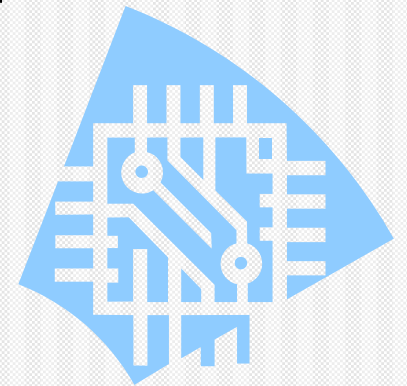
Plotting / Printing

- ❑ Print a text file:
 - `enscript file.txt`
- Print a PostScript file:
 - `lpr file.ps`
- Print a graphics file:
 - (select “Print” from menu)
- List print jobs:
 - `lpq [-Pprinter]`
- Kill print job n:
 - `lprm [-Pprinter] n`
 - `cancel`

Intro to Computing at Lamont-Doherty Earth Observatory

Part 4: Data Processing Software

- Presentation
- Exploration



GMT

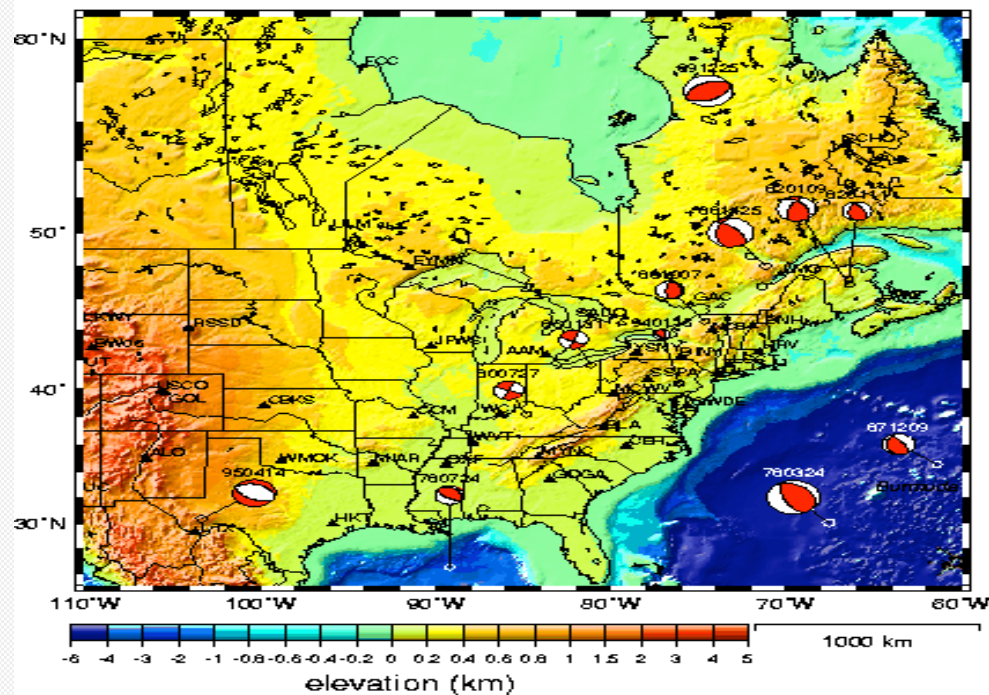
- Open source collection of ~60 tools for manipulating geographic and Cartesian data sets (including filtering, trend fitting, gridding, projecting, etc.)
- Producing Encapsulated PostScript
- File (EPS) illustrations ranging from
 - simple x-y plots through contour
 - maps to artificially illuminated surfaces
 - 3-D perspective views.
- GMT supports ~30 map projections and transformations
- It comes with support data such as coastlines, rivers, and political boundaries.
- **GMT** is released under the [GNU General Public License](https://www.gnu.org/licenses/gpl-3.0.html).



GMT Help

- <http://gmt.soest.hawaii.edu/>
- Locally email Bob Arko at arko@Ideo.columbia.edu

Eastern North America



6/2/04

By Mahdad Parsi

GIMP

- The GIMP is the GNU Image Manipulation Program.
- It is a freely distributed piece of software for such tasks as photo retouching, image composition and image authoring.
- It works on many operating systems, in many languages.
- <http://www.gimp.org>

MATLAB

- MATLAB integrates mathematical computing, visualization, and a powerful language to provide a flexible environment for technical computing.
- The open architecture makes it easy to use MATLAB and its companion products to
 - explore data,
 - create algorithms,
 - reate custom tools that provide early insights and competitive advantages.
- Unix Command: matlab or Install it on your desktop by contacting
 - request@ideo.columbia.edu



MATLAB Help

- Visit <http://www.Ideo.columbia.edu/network> and Click on MATLAB at Lamont link
- Visit <http://www.mathworks.com> and click on support.
- Email support@mathworks.com

Publishing - Others

- GMT
- GIMP
- Adobe Photoshop
- Adobe Illustrator
- Adobe Acrobat
- Microsoft Office Suite
- Solaris staroffice

ENVI /IDL

- ENVI (ENVI & IDL),
- IDLVendor [Research Systems Inc](#)
- Description
 - ENVI - remote-sensing software that provides hyperspectral image analysis, image enhancement and feature extraction.
 - IDL - programming software used for data analysis, visualization and cross-platform application development.
 - Platform/Version Windows: ENVI 4.0, IDL 6.0 Unix, Linux, Mac OS X: ENVI 3.6, IDL 5.6 Mac OS 9 or below: ENVI 3.5, IDL 5.5

arcGIS

- [ArcGIS](#) is an integrated collection of GIS software products for building a complete GIS for your organization.
- The ArcGIS framework enables you to deploy GIS functionality and business logic wherever it is needed—in desktops, servers (including the Web), or mobile devices.
- This architecture, coupled with the [geodatabase](#), gives you the tools to assemble intelligent geographic information systems.

Exploration - Others

- Matlab
- ENVI / IDL
- arcGIS

The End

<http://www.ideo.columbia.edu/network/computing.pdf>