Library Services and Resources for University Communities

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Students and Universities: Relationships will change, but how?

- Will students enroll in networked courses regardless of institutional affiliation?
- Will courses continue to be institution-centered?
- Will credit-for-contact hour continue?
- Who will award the degree in networked environment?
- Will one institution provide an entire program of study?
- What about tuition payments?
- What about residency requirements?
Factors Which Make Change Inevitable

- decreased resources
- increased costs
- pressure for more accountability and productivity
- changing patterns of scholarly communications
- asynchronous and off-campus instruction
- information explosion
- network-based information delivery
- paramount importance of computer and telecommunications expertise
VIVA Budget

- **1994/1996**: $5,238,221
- **1996/1998**: $4,991,000
- **1998/2000**: $2,015,000
  - $250,000
- **1998/1999**: $2,015,000
  - $520,000
- **1999/2000**: Plus $555,700 per institution per year
VT Degree Programs

- College of Agriculture and Life Sciences
- College of Architecture & Urban Studies
- College of Arts & Sciences
- Pamplin College of Business
- College of Engineering
- College of Forestry & Wildlife Resources
- College of Human Resources & Education
- Virginia-Maryland Regional College of Veterinary Medicine
Tuition and Fees 1997/98

- $4,147 (undergraduate, in-state)
- $11,111 (undergraduate, out-of-state)
- $4,769 (graduate, in-state) $7,199 (graduate, out-of-state)
- $4,626 (graduate, off-campus studies, in-state)
- $7,092 (graduate, off-campus studies, out-of-state)
- $7,620 (Veterinary Medicine, Virginia and Maryland residents)
- $20,086 (Veterinary Medicine, out-of-state)
- $3,420 (room and board, residence hall occupants)
IDI Goals: Faculty Development

- Motivate teaching faculty to investigate, create, use alternative instructional strategies
- Access to state-of-the-art instructional technology
IDI Goals: Student Access

- Advice about computer technology
- Access to computing resources and software unique to disciplinary areas
- Network-based training materials
IDI Goals: Course Development

- Support faculty
- Electronic libraries of scholarly materials
- Classroom and presentation facilities
VTOnline

- Support student enrollment in electronic courses through links to services
- Support faculty development of online course materials
- Recruit and retain international students
**VT Library Holdings**

- **Volumes** 2,005,765
  - vols. added 1996/97 70,066
  - vols. withdrawn 1996/97 43,170
  - monographs purchased 34,639
- **Serials** 18,774
  - Serials --purchased 13,024
  - Serials--deposited 5,750
- **Microforms** 6,010,711
- **Computer Files** 5,679
- **Maps** 129,613
- **Audio Tapes, Cassettes, CD's** 8,418
- **Photographs** 64,520
- **Film & Video** 8,238
VT Library Activity

- Circulation 382,787
  - Renewed materials 67,501
- Reserve 842,806
  - Manual and electronic
- InterLibrary Loan
  - Provided to others 26,494
  - Received 16,565
VT Library Personnel

- Professional staff 37 FTE
  - $1,415,803
- Support staff 97 FTE
  - $2,056,817
- Student assistants 69 FTE
  - $583,307
- Total salary and wages: $4,055,927
VT Library Materials Expenditures

- Monographs 1,037,818
- Serials 4,058,774
- Other formats 48,772
- Other materials 515,774
- Contract binding 179,248

- Total expenditures 1996/97 1,781,612
Resources available through VIVA

- **Electronic titles**  310,000
  Cambridge Scientific (54), First Search (50), GaleNet (5), MathSciNet (2), statistical reports, books (300,506), full text poetry/verse (9,738)

- **Electronic subscriptions**  8,700
  Academic Press (174), Business ASAP (460), Dow Jones (5,496), Expanded Academic Index (858), General Business Files (563), etc.
EJournals from SCP

- ALAN Review
- Journal of Computer-Aided Environmental Design and Education
- Journal of Fluids Engineering
- Journal of Industrial Teacher Education
- Journal of Technology Education
- Journal of Technology Studies

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- Journal of the International Academy of Hospitality Research
- Journal of Vocational and Technical Education
- Journal of Youth Services in Libraries
- Society for Philosophy & Technology
- Women in Literature and Life Assembly

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- +5 journals mirrored from commercial scholarly publishers
- +3 “dead” titles
Ejournals at http://scholar.lib.vt.edu/ejournals/

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How are ETDs done at Virginia Tech?

- Produced using standard word processing packages
- Delivered as portable document format (PDF) files to library/archive server
- Reviewed by the Graduate School
- Cataloged and archived by the library
- Downloaded by UMI from the library
Improve Library Services

- Better stocked digital library
- Timely access to information
- Serve more clients with fewer staff
- Cost savings: library and students
  - save shelf space, building space
  - safe staff time: eliminate circulation, shelving, binding
  - paper and printing
- Improve online catalog access
Additional Goals of the VT ETD Project

- Graduate research results become more readily and more completely available
- Graduate education improves by sharing ETDs
- Universities unlock intellectual property
- Graduate students learn about electronic publishing
- Graduate students save money
- Continuous online access
What are the long term goals?

- 400K students/yr getting graduate degrees are exposed to e-publishing
- ETDs become rich hypermedia works
- Graduate education is more effective, students are more productive
- University publishes its scholarship
- Knowledge, technology transfer are faster and better
How has usage changed?

- Virginia Tech theses submitted 1990 - 1994, combined average circulation per copy is 2.24/yr
- Virginia Tech dissertations submitted 1990 - 1994, combined average circulation per copy is 3.2/yr
- There were 4600 requests for ETDs (PDF files) in 1996
- 74,028 ETDs requested in 1997
- 244,987 ETDs requested Jan.-Sept. 1998
# Usage of ETDs in VT Collection

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<td>37,171</td>
<td>247,537</td>
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<td>102</td>
<td>685</td>
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<td>4,600</td>
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<td>25,829</td>
<td>112,633</td>
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<td>Hosts Served</td>
<td>9,015</td>
<td>22,725</td>
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NDLTD Participating Universities

- Air University, Maxwell AFB, AL
- Chungnam Uni. (Korea)
- Clemson University
- College of William and Mary
- Concordia University (Illinois)
- Curtin University of Tech. (Australia)
- Darmstadt University of Tech. (Germany)
- Florida Institute of Technology
- Griffith University (Australia)
- Gyeongsang Nat Uni. (Korea)
- Michigan Tech
- Nanyang Tech Uni. (Singapore)
- National University of Singapore (CS)
- Naval Postgraduate School, Monterey
- North Carolina State University
- Rhodes University (South Africa)
- Rochester Institute of Technology
- St. Petersbourg State Tech. U. (Russia)
- Uni. de las Americas Puebla (Mexico)
- Université Laval (Québec, Canada)

- University of Florida
- University of Georgia
- University of Guelph
- University of Hawaii, Manoa
- University of Maine
- University of New South Wales (Australia)
- University of Oklahoma
- University of Queensland
- University of South Florida
- University of Sydney
- University of Tennessee, Knoxville
- University of Tennessee, Memphis
- University of Texas, Austin
- University of Virginia
- University of Waterloo
- University of Wisconsin, Madison
- Vanderbilt University
- Virginia Tech
- West Virginia University
- Wilfrid Laurier University
NDLTD Goals

• Provide scholars with access beyond their host institutions
• Improve timely access to the information
• Links to related works and resources on the Internet
• Libraries serve more users without additional staff
• Reduce the need for additional shelf space in libraries
• Save students money producing their final research projects
• Students can be more creative in documenting their final research
• Students learn about electronic publishing
What are some of the challenges?

- Training students and faculty
- Explaining importance to publishers
- Managerial and technical steering
- Evaluating at national scale and over research career of graduate students
- Improving digital library technology
- Scalability, sustainability, usability
- Expanding the concept to other universities
- Developing the infrastructure for the NDLTD
Why might your university want to be involved?

- To improve graduate education
- To unlock university information
- To save money for students and for the university
- To build an important digital library that will help other digital libraries get built
Help Available to Others

- WWW site with information you might need
- Free automated submission system
- Student guidelines, style sheets, training materials, FAQs, PR info
- Word processor templates and converters
- Multimedia educational materials
- Workshops for pilot institutions at Virginia Tech
How can your university get involved?

- Organize a planning/implementation team
  - Graduate School
  - Library
  - Information Technology
- Adapt the Virginia Tech solution
- Parallel development
  - Build interest and consensus
  - Start trial/allow optional submission
Join the NDLTD Initiative
Networked Digital Library of Theses & Dissertations

✈ Browse
  – http://scholar.lib.vt.edu/theses
  – www.ndltd.org

✈ Share your ideas, questions, concerns, experience

✈ Contact
  – John Eaton, Graduate School (eaton@vt.edu)
  – Ed Fox, Computer Science (fox@vt.edu)
  – Gail McMillan, Library (gailmac@vt.edu)
Electronic Archiving

- Retain all works online and available all the time from a single, stable server.
  - If secondary server, apply age and/or usage criteria
- Uniform Resource Numbers
  - PURLs (OCLC)
  - Handles (CNRI)
Archiving and Security

- **Data:**
  - Back up: hourly and weekly
  - Programmatic transfer between servers
  - Copies: 4 month cycles
  - Annual copy

- **Content**
  - Works cannot be modified or replaced by authors or readers
  - System administrators reluctantly modify
    - Change access restrictions
    - Activate e-mail addresses
SCP Staffing

- **Director**
  - librarian, faculty member
  - half- then full-time from Technical Services

- **Technical Director**
  - programmer then upgraded to systems analyst
  - half-time shared with Library Automation
  - Fall 1998 - full time in SCP

- **Programmer**
  - half-time “Adds Clerk” from Serials/Technical Services
  - evolved into full-time HTML markup
  - upgraded from grade 5 to grade 10 - spring 1997
SCP’s Server: Sun Netra

- 200 Mhz Ultrasparc processor
- 128 Mb of RAM
- Gb of disk space for OS, related tools
- ETDs on 4 Gb partition
- Netscape Enterprise Server
- Perl 5.004_01
- CGI.pm
- Sun 8mm Ultra Wide SCSI tape drive
  - 170m tapes; 40 Gb compressed storage