

AN OPEN SOURCE, OPEN ACCESS JOURNAL DATABASE APPLIANCE: A PROPOSAL

Presented at:

Managing technologies and library automated systems in
developing countries: Open Source VS commercial options

An IFLA Pre-Conference Satellite meeting
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Outline

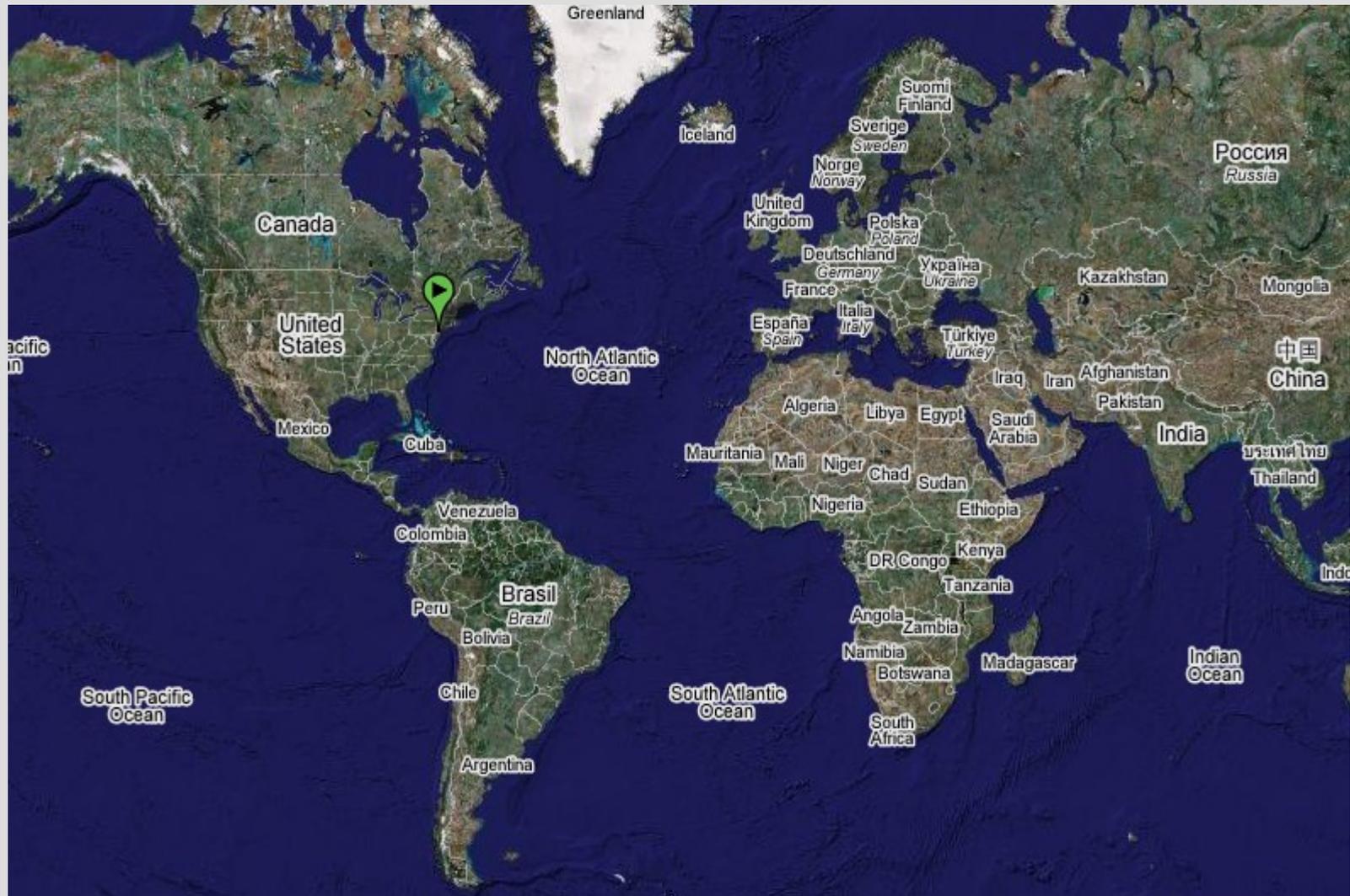
- Open Access Journal Database Appliance (OAJDA)
- Other projects
 - eGranary Digital Library
- Reasons for these projects
- Recommendations
- Not necessarily in this order

About Me



- Systems Librarian @ TCNJ
- President of Linux Users Group in Princeton
- Long time Open Source advocate
- Realist (best software for the job)

The College of New Jersey



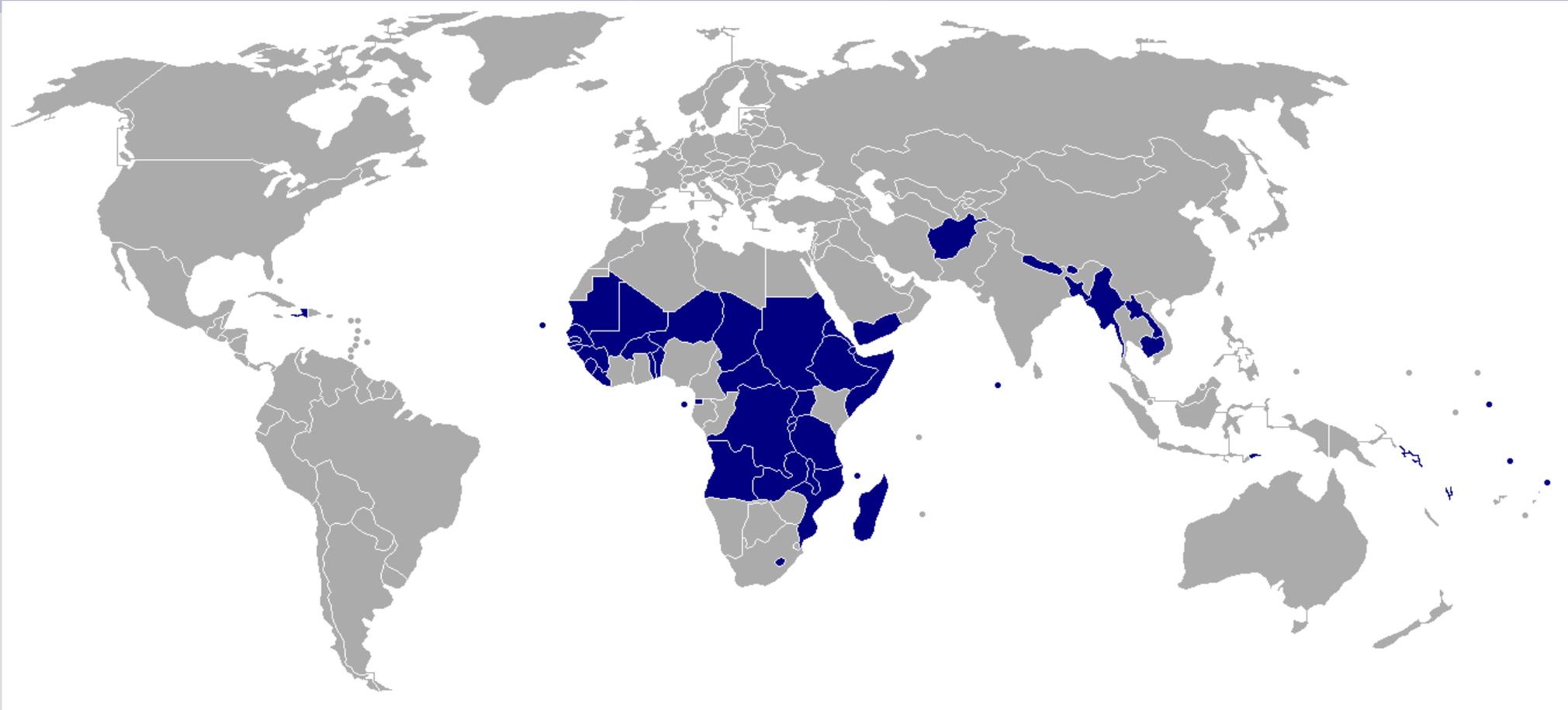
Brief Overview of Open Access Journal Database Appliance (OAJDA)

- Open Source Software (such as Greenstone)
- Open Access Content
- Provides enhanced access to scholarly publications
- Designed to be used without Internet connectivity
- Designed with Academic and College Libraries in Least Developed Countries (LDCs) in mind, but could be used by anyone, anywhere

Least Developed Countries (LDCs)

- United Nations designation
- Criteria:
 - Low-income (three-year average GNI per capita of less than US \$750, which must exceed \$900 to leave the list)
 - Human resource weakness (based on indicators of nutrition, health, education and adult literacy)
 - Economic vulnerability
 - Countries with populations over 75 million are excluded
- 50 total countries (34 in Africa)

Least Developed Countries (LDCs)



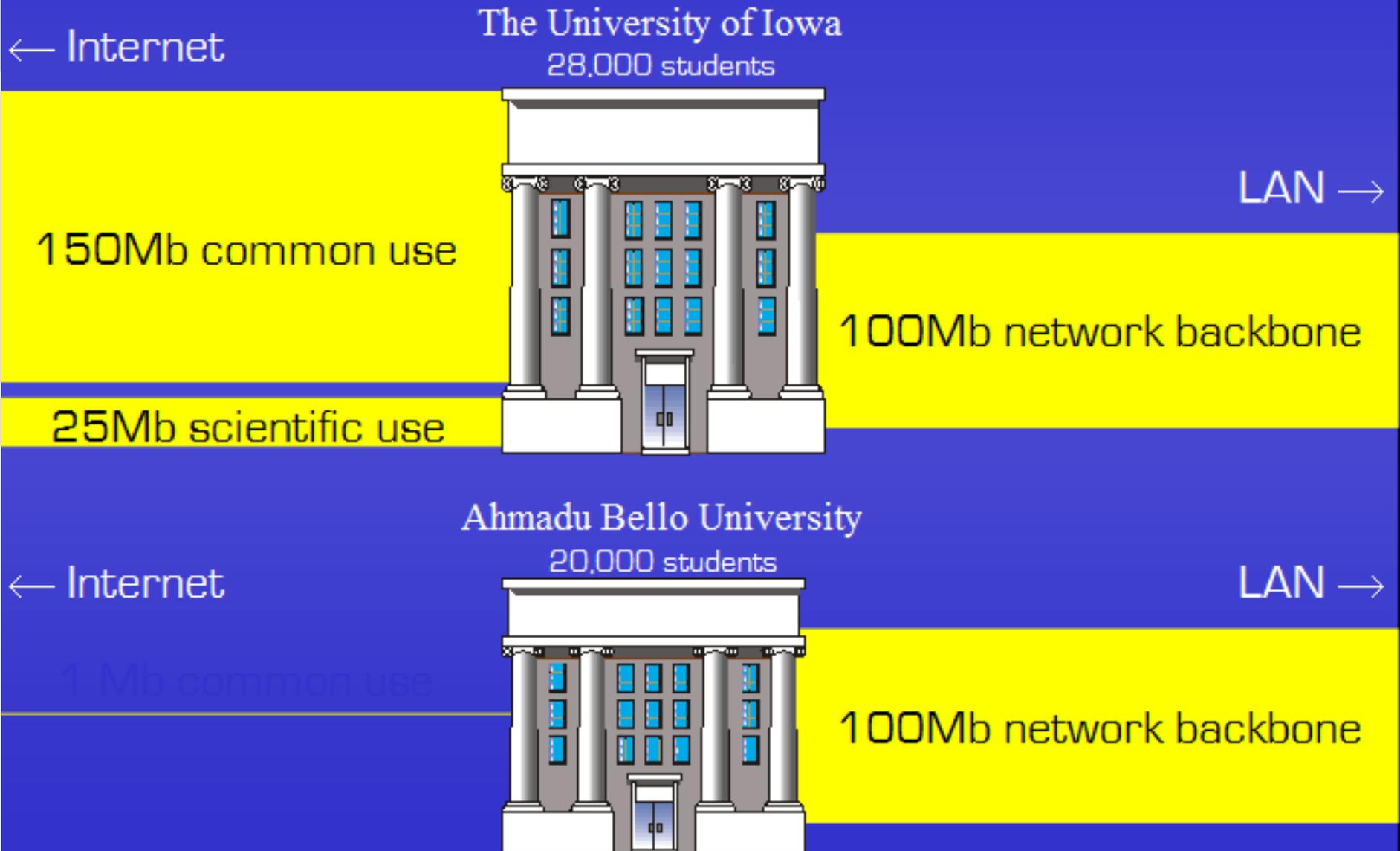
Map of the Least Developed Countries as defined by the United Nations

Source: http://en.wikipedia.org/wiki/Least_developed_country

Internet Connectivity Issues in LDCs

- Very slow or limited Internet access
- Most research still done using traditional print periodicals (Oyelaran-Oyeyinka and Adeya, 2004, pp. 75)
- Even at connected universities, students and professors can't always get online (Miner and Misner, 2005, pp. 28)
- Average connected African university is only connected 5 hours per day (Miner and Misner, 2005, pp. 28)

A Bandwidth Comparison



Programs to Improve Network Infrastructure

- African University Network
 - A joint United Nations Agency project (United Nations University (UNU) and International Telecommunication Union)
 - Goal is to have every African College and University connected by 2015
 - <http://gvu.unu.edu/docs/African%20University%20Network.doc>
- Connectivity Africa: a programme to improve access to information and communication technologies (ICTs) in Africa.
<http://www.connectivityafrica.ca/>

Some Existing Open Source Software Initiatives in Africa We Learned about at the Pre-Conference

- Koha implementation at University of Kinshasa (Filip Kabeya)
- SIDAREC (Nairobi, Kenya) (Unni Knusten)
- MALICO's plan to install Koha at one of their smaller colleges (Malawi) (Dorothy Eneya)
- Some audience members mentioned their own projects/success stories

Improving Access to Scholarly Materials

- Solutions need to consider:
 - Sub-standard network infrastructure
 - Limited number of computers
 - Limited number of computer professionals
 - Inadequate funding

Open Source Software

- No charge
- Users can make changes
- Users can share software
- Not dependent on Western corporations

(Fuchs and Horvack, 2006)

Four Freedoms of Free Software

- The freedom to run the program, for any purpose
- The freedom to study how the program works, and adapt it to your need
- The freedom to redistribute copies so you can help your neighbor
- The freedom to improve the program, and release your improvements to the public, so that the whole community benefits

Source: <http://www.gnu.org/philosophy/free-sw.html>

Open Access

- Open access “calls for scholarly publications to be made freely available to libraries and end users” (Corrado, 2005 n.p.)
- In other words “(OA) is immediate, free and unrestricted online access to digital scholarly material, primarily peer-reviewed research articles in journals.” http://en.wikipedia.org/wiki/Open_access
- Less legal hurdles and copyright issues
- Focus on identifying and collecting content rather than negotiating with content providers

Simple Solutions

- Easy to install and maintain
- Simple, straight forward, user friendly interface
- Possible software/protocols
 - E-Prints
 - Greenstone
 - Open Archive Initiative Harvesting Protocol
- Better automation and lower costs

How?

- Identify Open Access content
- Collect/harvest data using Standard protocols
- Store data into a “portable” digital library tool such as Greenstone
- Distribute OAJDA to libraries

Challenges

- How to get the data to libraries located in rural areas of LDCs?
 - Internet delivery might be possible during periods of connectivity/low-use times
 - Hard drives
 - USB memory storage devices
 - DVD-ROMs
- Who
 - Professional organizations such as IFLA
 - NGOs (Such as eIFL)
 - Sister library program
 - Local organizations/community

OAJDA

Fits with Fuchs and Horvak's call for
“solutions to the material and social
causes of the global digital divide [...] based on open standards and copy-left licenses.”

Related Projects/Initiatives

- The Access to Global Online Research in Agriculture (AGORA)
 - Provides free or low cost access to 958 journals from leading academic publishers
- Electronic Information for Libraries (eIFL.net)
 - An independent foundation that's main focus is to negotiate affordable subscriptions to electronic resources on a multi-country consortial basis
- African Journals OnLine (AJOL)
 - provides online access to scholarly research published inside of Africa using the Open Journal System

eGranary Digital Library



- Maintained by the University of Iowa's WiderNet Project
- "Internet-in-a-box" solution
- Intranet Web server INSIDE partner institutions
- Replaces "Bandwidth with Storewidth"

eGranary: How they do it

- . Identify Web sites with rich educational content
- . Secure the author's or publisher's permission to copy their materials
- . Copy the permitted materials to a hard drive at the University of Iowa's WiderNet Project
- . Make copies of the collection and distribute to subscriber universities
- . Update and redistribute hard drives as time and travel schedules permit

What's in the eGranary

General Catalog Statistics

Click on the title to see details...

<u>Whole Web Sites</u>	358
<u>Partial Web Sites</u>	497
<u>Journals (Est.= 250+) Cataloged so far...</u>	149
<u>Books (Est.= 10,000+) Cataloged so far...</u>	334
<u>Educational Software</u>	56
<u>Computer Software</u>	61
Total File Count	over 5 million

Differences between OAJDA and eGranary

- OAJDA only includes Open Access content
- OAJDA has one simple interface for all included content
- eGranary uses multiple native interfaces of included content

What Can Be Learned

- Recruit subject specialist to identify content
- Types of content (beside just journals, include educational Web sites and books)
- Distribution of data via hard drives
- Distribution of data via one-way satellite communications (satellite radio)
- Replacing Bandwidth with Storewidth can be successful

Citations

- Corrado, Edward M. (2005). The Importance of Open Access, Open Source, and Open Standards for Libraries. *Issues in Science and Technology Librarianship*, 42, Article 2.
- Fuchs, Christian and Horvack, Eva (2006). Africa and the Digital Divide, *Telematics and Informatics*, In Press, Corrected Proof (From Science Direct database)
- Miner, Edward A. and Missen, Cliff (2005). “Internet in a Box”: Augmenting bandwidth with the eGranary Digital Library. *Africa Today*, 52(2): 20-37.
- Oyelaran-Oyeyinka, Banji and Adeya, Catherine Nyaki (2004). Internet Access in Africa: Emperical evidence from Kenya and Nigeria, *Telematics and Informatics*, 21: 67-81.

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Thank you!

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