History of Broadband in C-U

Chamber of Commerce - CCNet projects
- Mid 1990's
- Time-Warner Cable - very early cable modems
- Ameritech - ISDN pilot

University Off-Campus Housing RFP - 1999
- Multiple Dwelling Units - Certified Student Housing
  - Fraternities, Sororities & Apartment Buildings
- McLeodUSA fiber build in Champaign
  - 10 and 100 Mbps symmetrical Ethernet
- McLeodUSA full-rate ADSL in Urbana
  - 7 Mbps downstream, 1 Mbps upstream
CiUSBroadbandSHistorySiS

I am a one-trick pony

- First raised local fiber concept in 1997 - C-Unet2000
  - Thought it would take 3 years - Oops

2008 Educause Big Broadband White Paper

- $200 Billion to connect to every home in USA with fiber

2009 C-U Cable Commission

- Broadband Access Committee
  - Advocated for better broadband in the community
  - Sponsored 2 public Broadband Forums

Graduate School of Library & Info. Science

- Sponsored a Community Broadband Forum in 2009
2009 Federal ARRA Stimulus Legislation

- Senator Obama read the Educause white paper
- Jump-started everything in January 2009
- Joanne Hovis presentation at iHotel in February 2009
- $7.2 Billion for broadband projects nationwide
- 20% local match required
- We competed with other broadband projects for funding
  - Did not compete with schools or roads for funds

State of Illinois Broadband Program

- Funded in 2009 capital budget - dedicated to Broadband
- $50 million total - up to a 10% match of total project
What is UC2B?

Our effort to leverage Stimulus funding

A Public-Private Partnership
  • The private sector will ultimately provide most services

An Intergovernmental Consortium
  • University of Illinois at Urbana-Champaign
  • City of Champaign
  • City of Urbana

$29.4 million infrastructure project
  • Awarded $22.5 million from NTIA in March of 2010
  • Awarded $3.5 million from State of Illinois - DCEO
  • $3.4 million in local public & private matching funds
What was not funded.....

Two “above ground” sister UC2B proposals

- *Public Computing Centers (PCCs)*
  - BTOP Round One - lots of PCCs
  - BTOP Round Two - fewer PCCs
  - Same result - no funding

- *Sustainable Broadband Adoption (SBA)*
  - Training
  - Computers for low income families
  - Community Help Desk
  - Not funded in either round of BTOP funding

The needs still exist

- Grants and private foundations?
Groundbreaking on 9/6/2011
What did UC2B build?

7 fiber-optic rings spanning the community

- Fiber connectivity for 255 broadly defined “Community Anchor Institutions”
- Schools, Libraries, Public Safety, Government, Medical, Senior Living & Activity, Youth Centers, Social Service Agencies, Public Computing Centers

Fiber-to-the-Premise (FTTP)

- To the curbs of 4,800 homes & 200 businesses
- In 11 “underserved” Census Block Groups
- Areas were determined by a statistically valid door-to-door survey and were primarily low-income
- Areas had less than 41% broadband adoption
7 Rings
Urbana-Champaign
Big Broadband

Ring # 1
Far North Champaign

Ring # 2
Near North Champaign

Ring # 3
Middle Champaign

Ring # 4
South Champaign and Savoy

Ring # 5
South Urbana and Savoy

Ring # 6
Middle Urbana

Ring # 7
North Urbana

UIUC
Node 9
Internodal Fiber

UIUC
Node 8
Sample Use of Middle Mile Fiber Ring to Serve Anchor Institutions

Urbana-Champaign
Big Broadband
Fiber Ring # 1 - Anchor Institutions

Public Safety
Schools & Libraries
Public Computing Centers
Medical
Government
Senior Centers
Youth Centers
In the Cities’ right-of-way

The 1400 block of West Beech St. in Urbana
One handhole for every 2 lots

1405 & 1403
West Beech
in Urbana
One handhole per two lots
Handhole = a small Manhole
Why Fiber-to-the-Premise?

Only “future-proof” technology
  • Speeds are almost unlimited on fiber
  • Will last for generations
  • No special licensing required
    • Cities own their rights-of-way
  • New electronics every 5-7 years
    • Faster and cheaper

Who will pay for Stimulus $?
  • Our children and grandchildren
  • They will benefit from this fiber
Why Symmetric Gigabit?

The electronics are a 5-7 year investment
  • Who thinks bandwidth demand will decrease?

1 Gbps is now the Broadband standard
  • 2010 Google Fiber competition
  • I went from a “crazy guy” to a “luddite” overnight

Symmetric connections are the future
  • More user generated content
  • U-Tube is just the beginning
  • More cloud-based services
  • Backup services, on-line software, disaster recovery
  • More remote desktop and work from home
  • Keeping up with Chattanooga, Kansas City & elsewhere
  • Korea, China, Japan, New Zealand and Australia
Why was the University involved?

Reinforces our campus fiber backbone
Redundant connections to the Research Park and the “Blue Waters” National Peta-Scale Computing Facility
Improved connectivity to off-campus leased offices
Improved connectivity to off-campus student housing
  • Will enable more blended learning
Will attract and retain faculty and staff
  • Improved home connectivity for faculty and staff
  • Improved connectivity for local schools & libraries
  • Better jobs for trailing spouses
An Open Access Network

UC2B is an Open Network

- Shared, community-owned infrastructure
- Multiple service providers
  - Providers compete on price and quality of service
  - All incumbent service providers are welcome
  - All competitive providers and ISP’s are welcome
- All data is treated the same
- No preference to any source or type of data

Network Neutrality is a grant requirement

- NTIA’s rules apply for 20 years
Where we are today

The NTIA grant was closed out in May
  • 1,250+ locations were connected to fiber
    • Anchor Institutions
    • Businesses
    • Residences

UC2B has evolved organizationally
  • Changed from a governmental consortium to an NFP
    • Not-for-Profit Corporation
    • Board appointed by the original consortium members

UC2B sought a private partner for expansion
  • Signed an agreement with iTV-3
  • Community announcement on May 29th
iTV-3 Announcement 5/59/14
iTV-3 Announcement 5/59/14