

# Collaborative Aggregation Partnership (CAP) and Network Nebraska

**Rick Golden, University of Nebraska  
Education Council Presentation,  
May 1, 2008 (updated 1/26/2010)**

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# NITC Technical Panel

- Five member panel charged with advising the NITC on technical issues and assisting in the development of a statewide technical infrastructure that will be scalable, reliable, and efficient.
  - Created and included in statute in 1998 as an advisory body to the NITC.
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# Technical Panel Members

- ❑ Walter Weir, University of Nebraska  
CIO, Chair
  - ❑ Brenda Decker, State of Nebraska  
CIO,
  - ❑ Christy Horn, Assistive Technology
  - ❑ Kirk Langer, K-12 representative
  - ❑ Michael Winkle, Nebraska  
Educational Telecommunications
  - ❑ Alternates to each of the above
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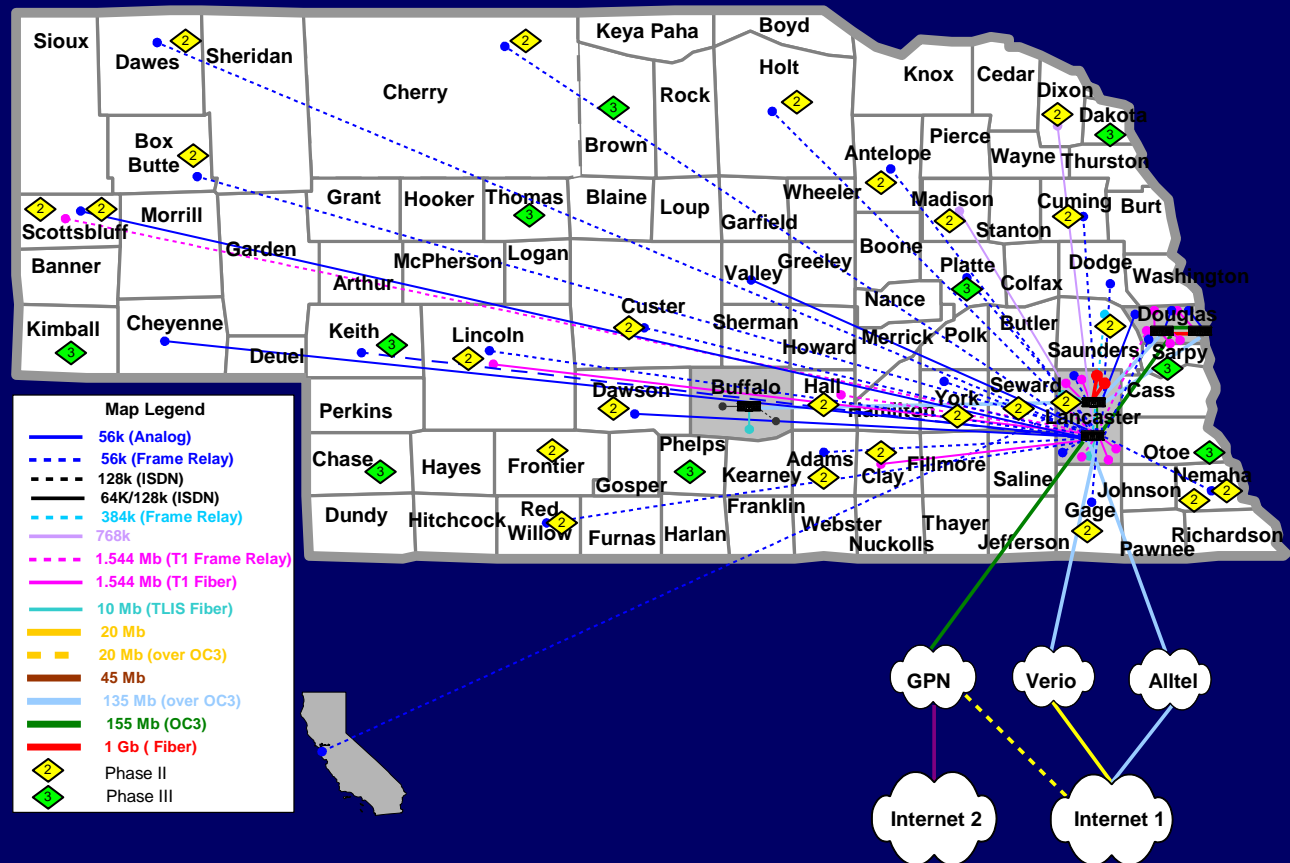


# Early Days of the “Network”

- Lt. Governor Heineman
  - University President Dennis Smith
  
  - Created partnership to aggregate network services
  - Show a cost savings
  - Make IT Happen
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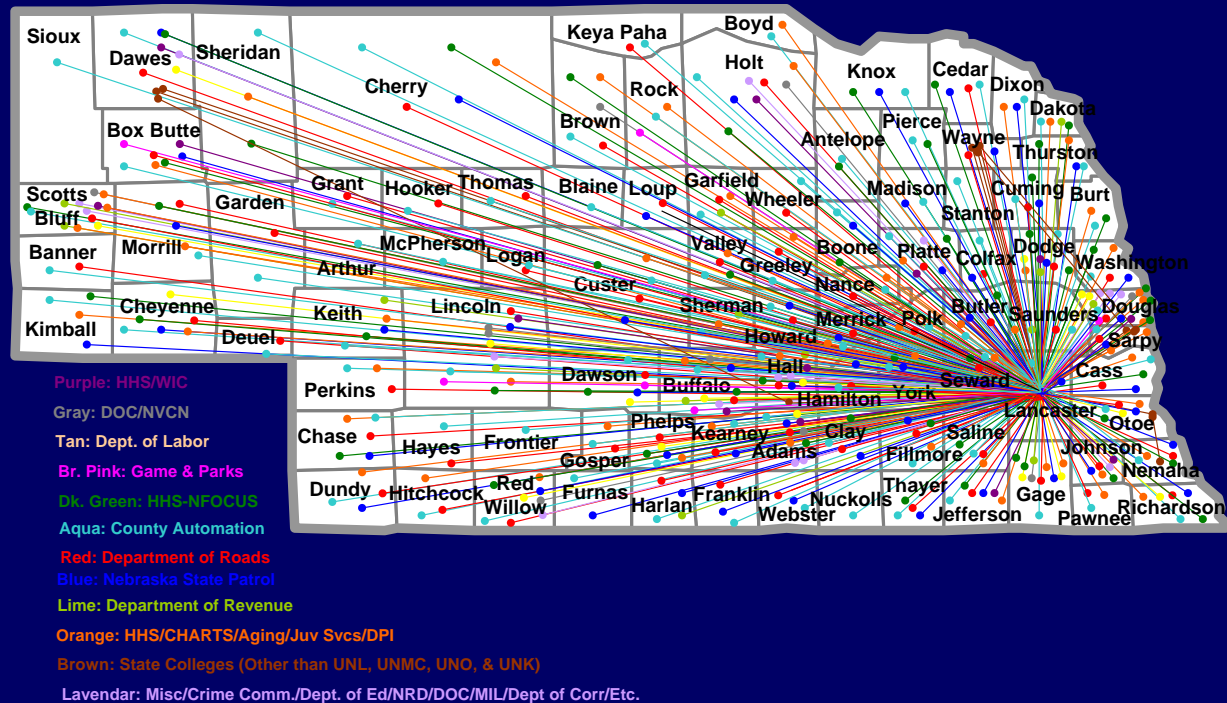
# University Network - 2000

## University of Nebraska State Wide Network



# State Network - 2000

## State of Nebraska Widen Project State Networks





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# TINA – Widen - Netcom

- Several early attempts to get a network started.
  - Including surveys, RFPs, etc.
  - Learned our lessons
  - Pilot connection to Scottsbluff
    - NU and State
    - Split a DS3 – 45 mbps
    - Saved considerable \$\$s
    - More importantly, we made it work
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# New Network Strategy - 2002

- Divide the state and implement in phases
  - State and University as anchor
    - Phase 1 RFP – Lincoln, Omaha, Kearney
    - Phase 2 RFP – Northeast and Western Nebraska
  - Two logical networks, shared contracts
  - Qwest and Alltel (now Windstream)
    - Redundancy from DFS
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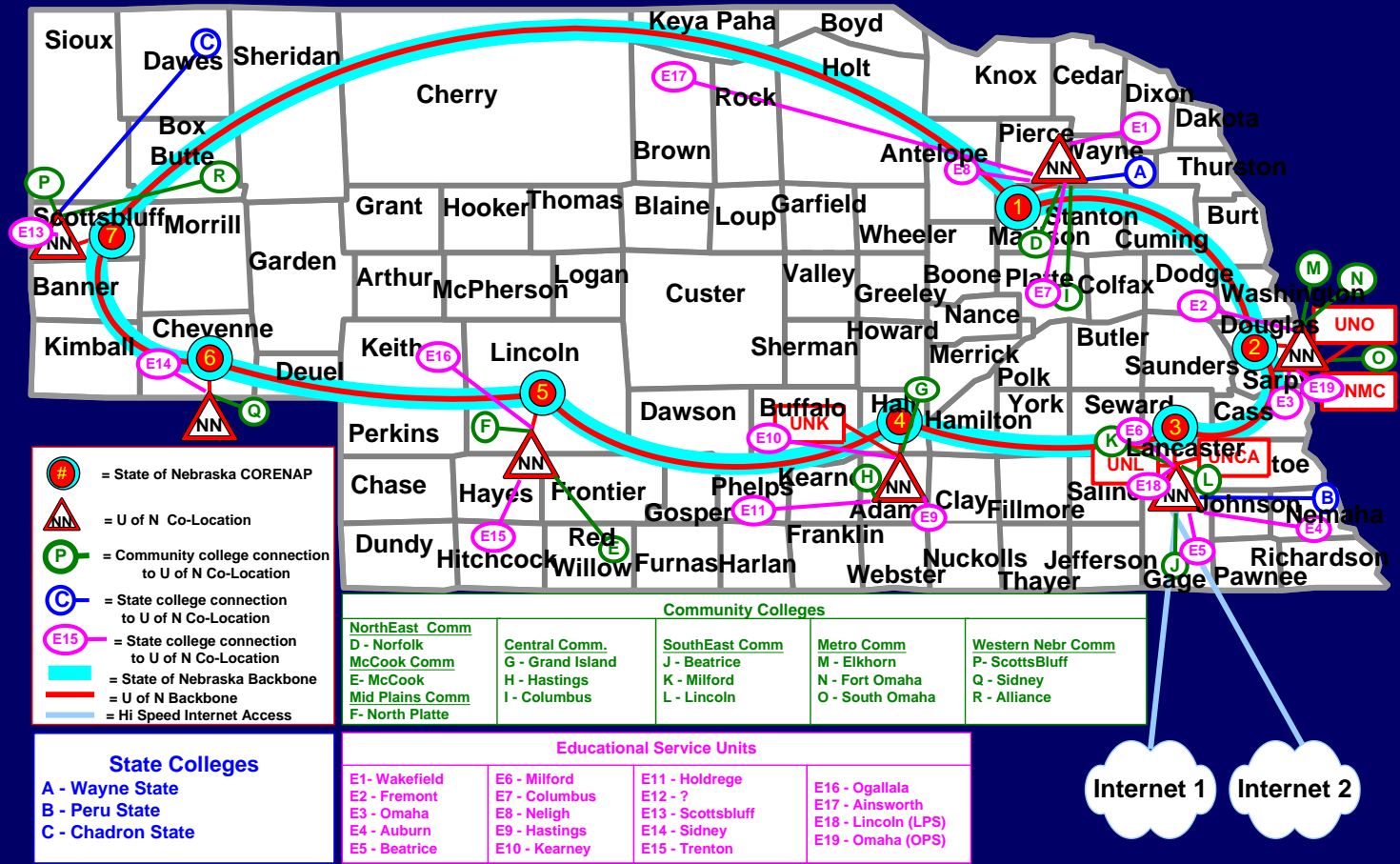
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# Network Nebraska - 2003

- USAC – SPIN Provider (via State)
  - Responded to school E-rate applications
  - Not a lot of belief that the State and University could provide the service
  - November – Project 42 becomes first customer/partner.
    - ESU 10's ISP had financial problems
    - Alan Wibbels was willing to take a chance on NN
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# University of Nebraska & NETCOM Network

with U of N campuses, State College, Community College & ESU connections





# CAP Formation (Collaborative Aggregation Partnership)-2003

- Mission – “Make it happen”
  - Network Nebraska needed a steering group to help set direction
  - Primary Members
    - NU CIO
    - State CIO
    - NET
  - Since have added:
    - PSC
    - K-12
    - NDE
    - Unicameral
    - NITC
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# CAP Initiatives

- Aggregate Internet bandwidth
    - Pricing was all over the place -- \$250 to \$1,400 per megabit (and going up) – total purchased statewide ~ 150 megabits
    - Current pricing - \$5 - \$15 per megabit – over 1.2 gigabits in use now + Internet 2
  - Web Site for distribution of information
    - [www.networknebraska.net](http://www.networknebraska.net)
  - Information Desk
    - At NET 1-888-NET-NEBR
    - [info@networknebraska.net](mailto:info@networknebraska.net)
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# CAP Initiatives (2006-present)

- Build LB 1208 Educational Network--K20
    - Develop Partnerships
    - Define services – primary ISP role
    - Provide connectivity/backbone
    - Manage network
  - Internet 2
    - Sponsored Education Group Participant
    - Now include Commodity Peering Service
      - Google, Yahoo, etc
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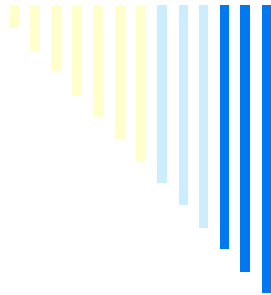


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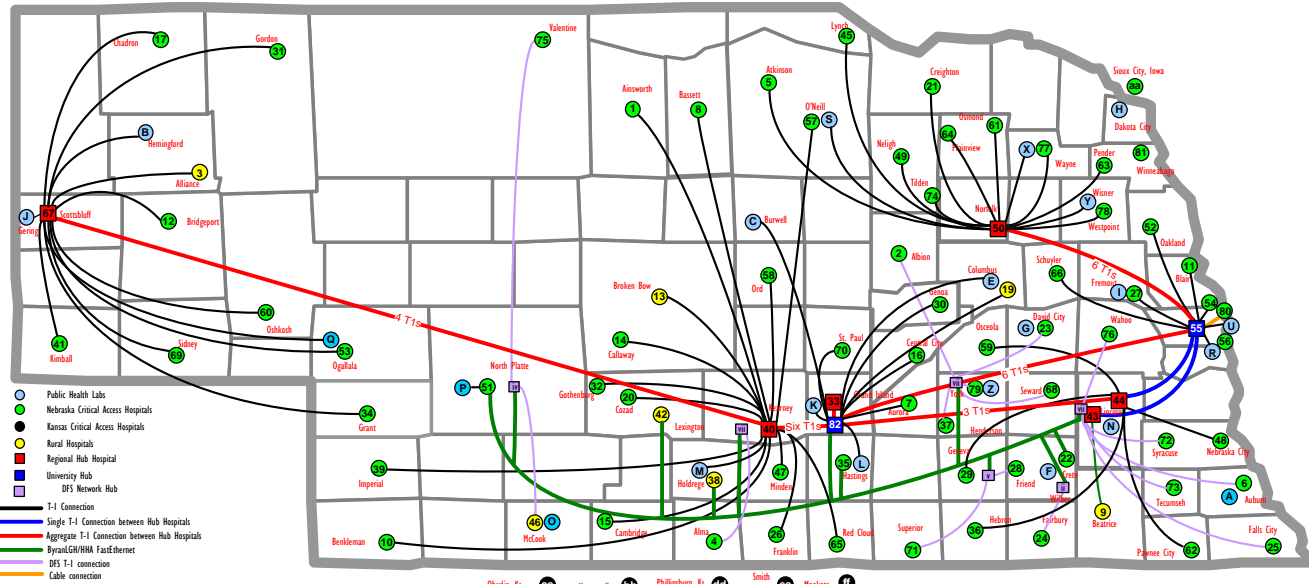
# CAP Initiatives

## □ Telehealth Network

- 80+ Hospitals
  - 20+ Public Health Departments
  - Private network – UNMC is the common connection point to Education Network
  - Qwest, Action Communications  
Windstream and Dark Fiber Solutions
  - Network management
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# Nebraska Telehealth Network



Nebraska Hospitals					
1. Ainsworth	Brown County	30. Genoa	Genoa Community	57. O'Neill	Avera St. Anthony's
2. Albion	Boone County	31. Gordon	Gordon Memorial	58. Ord	Valley County
3. Alliance	Box Butte General	32. Gothenberg	Gothenberg Memorial	59. Osceola	Garden County
4. Alma	Harlan County Health Sys	33. Grand Island	St. Francis Medical Center	60. Osmond	Osmond General
5. Atkinson	West Holt	34. Grant	Perkins County	61. Pawnee City	Pawnee County
6. Auburn	Nemaha County	35. Hastings	Mary Lanning Memorial	62. Pawnee	Pender Community
7. Aurora	Memorial	36. Hebron	Thayer County	63. Pender	Plainview Public
8. Bassett	Rock County	37. Henderson	Henderson Health Services	64. Plainview	Webster County
9. Beatrice	Beatrice Community	38. Holdrege	Phelps Memorial	65. Red Cloud	Alegent Health
10. Benkelman	Dundy County	39. Imperial	Good Samaritan Health Sys	66. Scottsbluff	Regional West Medical Center
11. Blair	Memorial Community	40. Kearney	Kimball County	67. Seward	Seward Memorial
12. Bridgeport	Morrill County	41. Kimball	Tri-County	68. Sidney	Memorial Health
13. Broken Bow	Jennie Melham	42. Lexington	Bryan/LGH	69. St. Paul	Howard County
14. Callaway	Callaway District	43. Lincoln	St. Elizabeth's	70. Superior	Broadstone Memorial
15. Cambridge	Tri-Valley Health System	44. Lincoln	Niobrara Valley	71. Superior	Community Memorial
16. Central City	Litzenberg Memorial	45. Lynch	Kearney County	72. Tecumseh	Johnson County Hospital
17. Chadron	Chadron Community	46. McCook	Community Hospital	73. Tilden	Tilden Community
18. Columbus	Columbus Community	47. Minden	St. Mary's	74. Tilden	Cherry County
20. Cozad	Cozad Community	48. Nebraska City	Antelope Memorial	75. Valentine	Saunders County
21. Creighton	Creighton Area	49. Neligh	Faith Regional Health Srvc	76. Wahoo	Providence
22. Crete	Butler Area	50. Norfolk	Great Plains Regional Medical Ctr	77. Wayne	St. Francis
23. David City	Jefferson County	51. North Platte	Ogallala Memorial	78. West Point	York General
24. Fairbury	Community Medical Ctr.	52. Oakland	Ogallala Community Hospital	79. York	Creighton Hospital
25. Falls City	Franklin County	53. Ogallala	Methodist Hospital	80. Omaha	Winnebago Indian Hospital
26. Franklin	Franklin County	54. Omaha	University of Nebraska Medical Ctr	81. Winnebago	College Park
27. Fremont	Warren Memorial	55. Omaha	Alegant Health Immanuel	82. Grand Island	
28. Friend	Fillmore County	56. Omaha			
29. Geneva					

Nebraska Public Health Depts.	
A. Auburn	Southeast District Health Dept.
B. Hamlingford	Panhandle Public Health Dept.
C. Burwell	Loup Basin Public Health Dept.
E. Columbus	East Central District Health Dept.
F. Crete	Public Health Solutions
G. David City	Butler County Health Dept.
H. Dakota City	Dakota County Health Dept.
I. Fremont	Three Rivers Health Dept.
J. Gering	Scotts Bluff County Health Dept.
K. Grand Island	Central District Health Dept.
L. Hastings	South Heartland District Health Dept.
M. Holdrege	Two Rivers Public Health Dept.
N. Lincoln	Lincoln-Lancaster County Health Dept.
O. McCook	Red Willow County Health Dept.
P. North Platte	West Central District Health Dept.
Q. Ogallala	Sandhills District Health Dept.
R. Omaha	Douglas County Health Dept.
S. O'Neill	North Central District Health Dept.
U. Papillion	Sarpy/Cass Dept. of Health and Wellness
X. Wayne	Northeast Nebraska Public Health Dept.
Y. Wisner	Elkhorn Logan Valley Public Health Dept.
Z. York	Four Corners Health Dept.

Hospitals From Other States	
aa. Sioux City, Iowa	
bb. Norton, KS	Norton County Hospital
cc. Oberlin, KS	Decatur County Hospital
dd. Phillipsburg, KS	Jewell County Hospital
ff. Mankato, KS	Jewell County Hospital

Dark Fiber Solutions Network Hubs		
i. Lincoln Bryan LGH, 1600 S. 48th	iv. NP GPRMC, 601 W. Leota St., North Platte	
ii. Wilber Head End, 901 N. Main, Wilber	v. Geneva Head End, 300 C. St. Geneva	
iii. DFS York, 600 1/2 Grand Ave., York	vi. Kearney Head End, 804 Ave. A., Kearney	

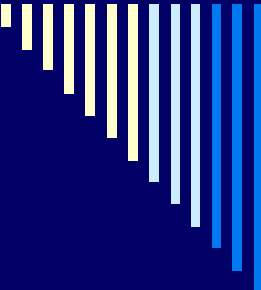


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# CAP Initiatives

- LB1208 – Distance Learning
    - Design and implement new network
      - IP Centric
      - Include all areas of State
      - Phased implementation
      - High bandwidth
      - Inter-regional Transport - backbone
    - Replace obsolete distance learning equipment
    - Network Operations Center
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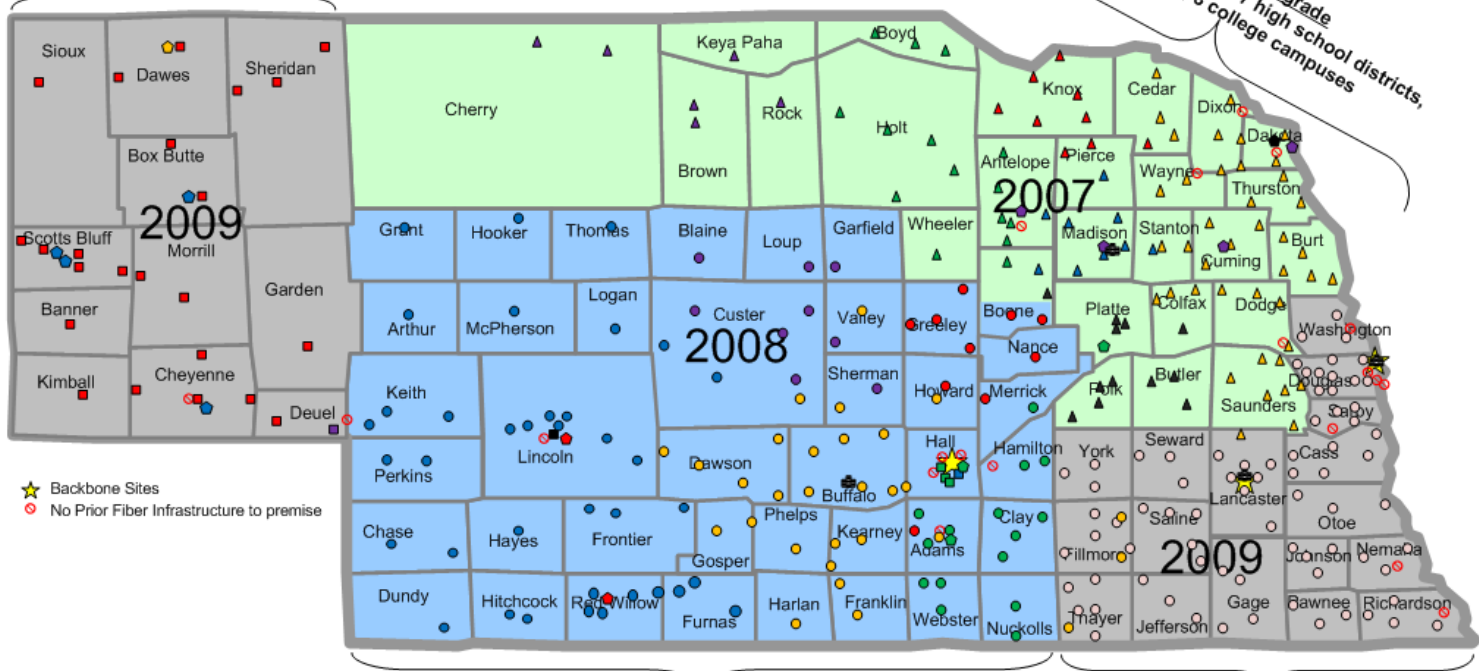




# LB1208 Map by Year

**Phase III Upgrade**  
 Panhandle Region: 23 high school districts, 2 ESU offices, 2 college campuses

**Phase I Upgrade**  
 Northeast Region: 87 high school districts, 5 ESUs, 3 college campuses



★ Backbone Sites  
 ○ No Prior Fiber Infrastructure to premise

**Phase II Upgrade**  
 Central Region: 102 high school districts, 6 ESUs, 7 college campuses

**Phase III Upgrade**  
 Southeast Region: 84 high schools, 6 ESUs, 12+ college campuses

- Phase I – Green Shading on Counties**
- ▲ NE-NEDLC (9 sites)
  - ▲ ENDLC (32 sites)
  - ▲ NVTP (14 sites)
  - ▲ NENELA (10 sites)
  - ▲ NCDLS (6 sites)
  - ▲ Crossroads (13 sites)
  - ▲ NECC (4 sites)
  - ▲ WSC (2 sites)
  - ▲ NU

- Phase II – Blue Shading on Counties**
- TriValley-North (12 sites)
  - TriValley-South (28 sites)
  - CNDC (17 sites)
  - SNDC (35 sites)
  - STEP (9 sites)
  - MPCC
  - CSC
  - CCC

- Phase III – Gray Shading on Counties**
- WNDLC (25 sites)
  - Giltner Public Schools
  - G.I. Public Schools
  - G.I. NorthWest High School
  - South Platte-Big Springs
  - North Platte St. Patrick's
  - WNCC

Revised: 02/29/2008 LLR  
 S:\networking\State Network\LB1208\LB1208 Map by Year 02/29/2008



# CAP – Network Nebraska's Future

- Further develop service level agreements
  - Improve Network Operations Center
    - Network management products
    - Partner access
  - Implement “trouble ticket” system
  - Define other services
    - Disaster recovery
    - Server Hosting
      - Email
      - Content streaming
      - Security
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# CAP – Network Nebraska's Future

- Formalize CAP membership
  - Formalize Network Operations
  - Formalize Advisory Groups
  - Advanced Network initiatives
    - Continue QOS implementation
    - IPV6
    - Converged Networking
    - Even more security
  - Network traffic engineering
  - Create redundancy in network
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# Additional Partnerships

- State and University Disaster Recovery
    - Fiber ring between Omaha and Lincoln
    - Potential other fiber needs
  - State Colleges and University
    - ERP System
    - SIS System
  - National network partnerships
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# Contact Information

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