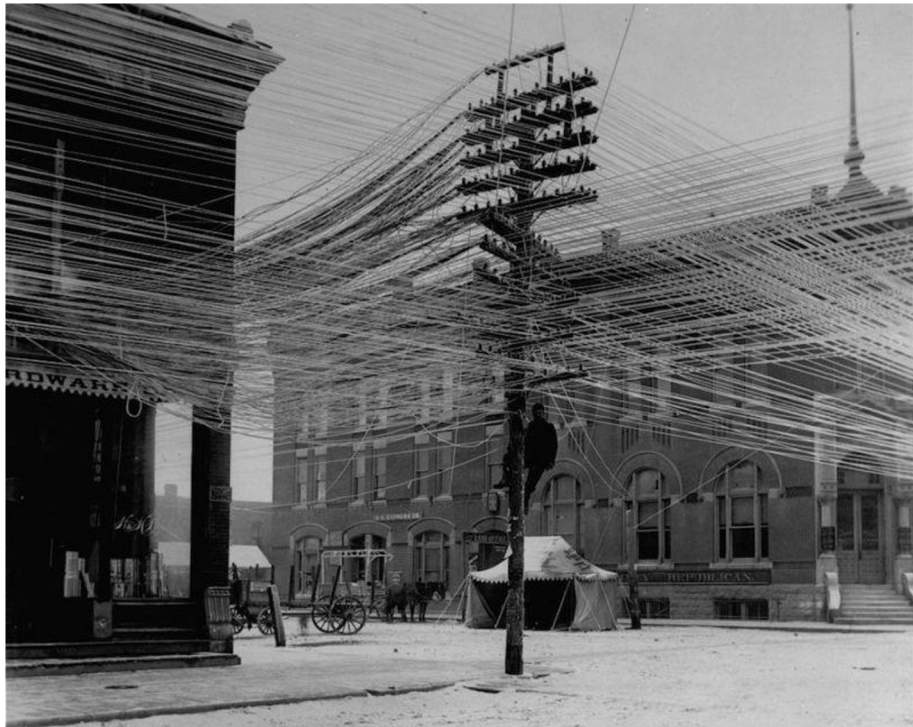


# Exploring NC Internet History



Mark Johnson

# Credits



Governor James B. Hunt - 4 terms

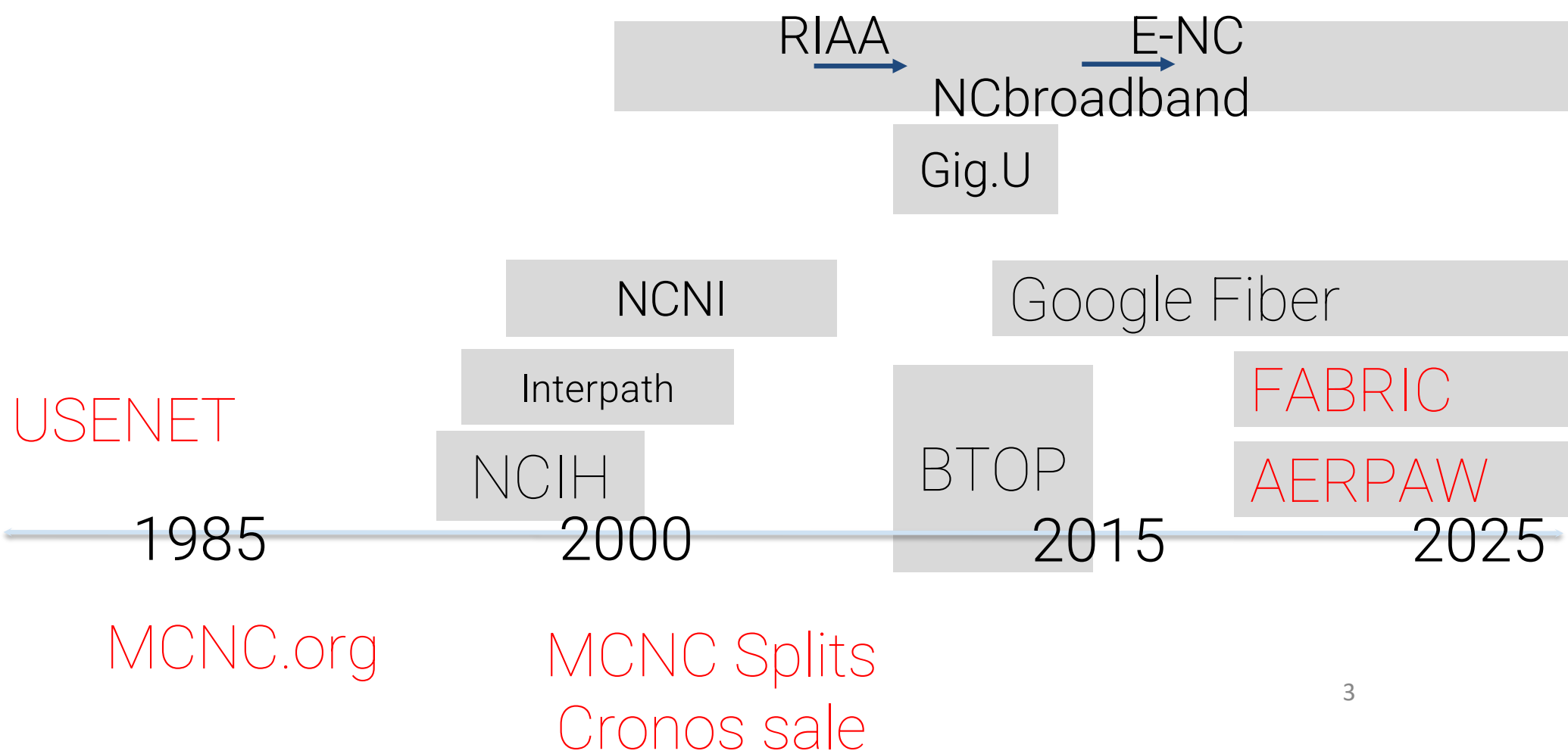
Jane Smith Patterson- State  
Government, E-NC



Henry Schaffer - NCSU, SURA

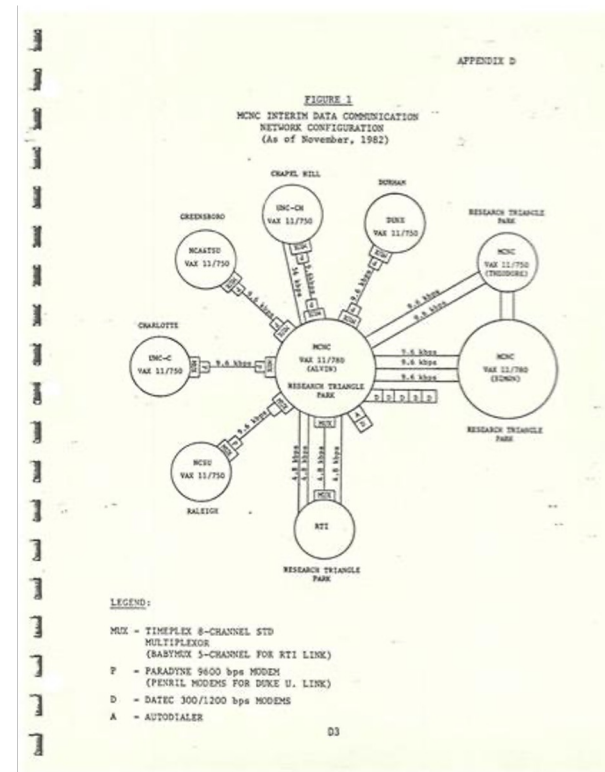
Alan Blatecky - MCNC, NSF, RENC I







Early networking in support of microelectronics  
 Video network developed to assist collaboration





1974

1984

1994

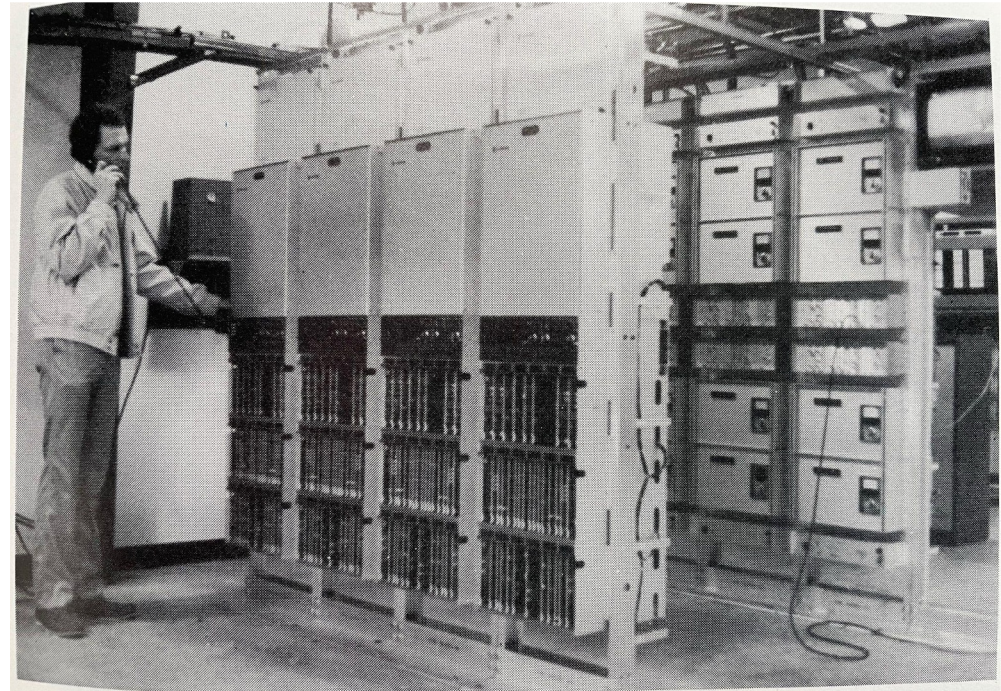
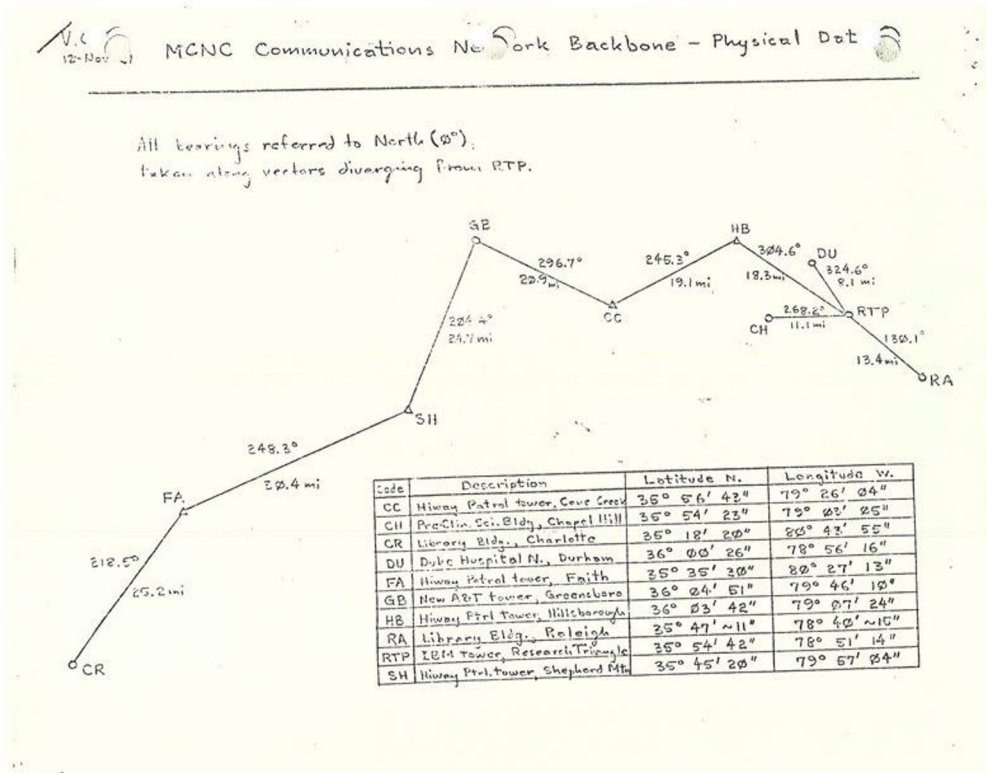
2004

2014

2024

1985

# MCNC microwave network



Henry Morrow, communications engineer, at the MCNC microwave radio facility.



# MCNC video

Strict room requirements

Expanded use cases

Remote classes

Telehealth

Med school grand rounds

Remote arraignments





# North Carolina Information Highway

Derivative of “Information Superhighway”

Three ILECs with a common service

ATM for transport technology

Fujitsu switches

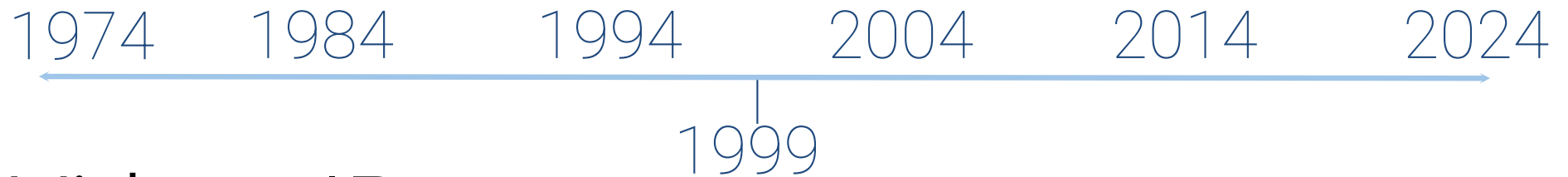
Fujitsu CPE

Service drops were fiber, OC3

DS-3 for video

T1+ for data





## Video - IP

Telcos shut down Fujitsu ATM for Y2K

Experimenting with MPEG2 over IP turns to production over Christmas break



# Commercial Access begins

The News & Observer



Media companies jump in

NandOnet - News and Observer paper

Interpath - Capitol Broadcasting

# Interpath



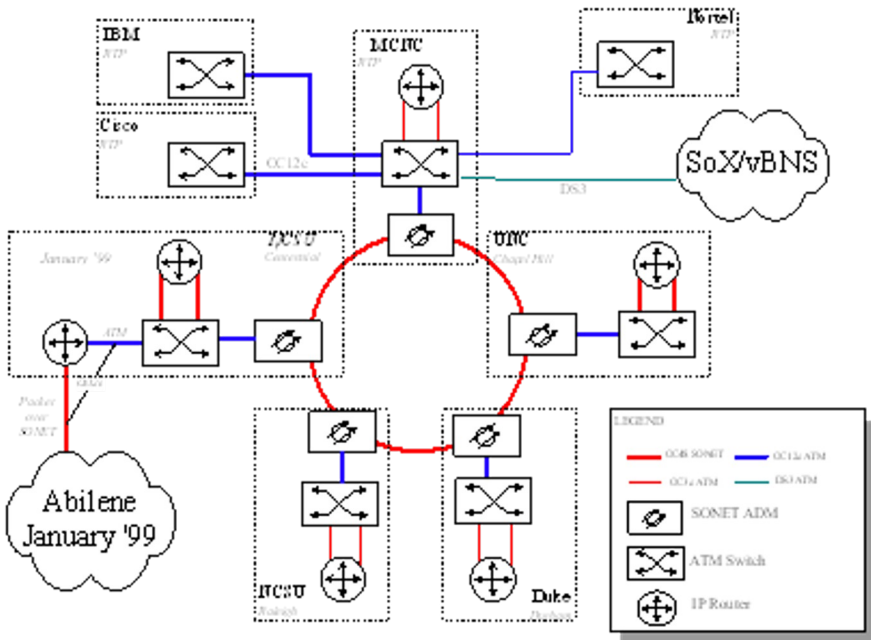
Capitol Broadcasting  
Progress Energy  
Baine Capital

1974      1984      1994      2004      2014      2024

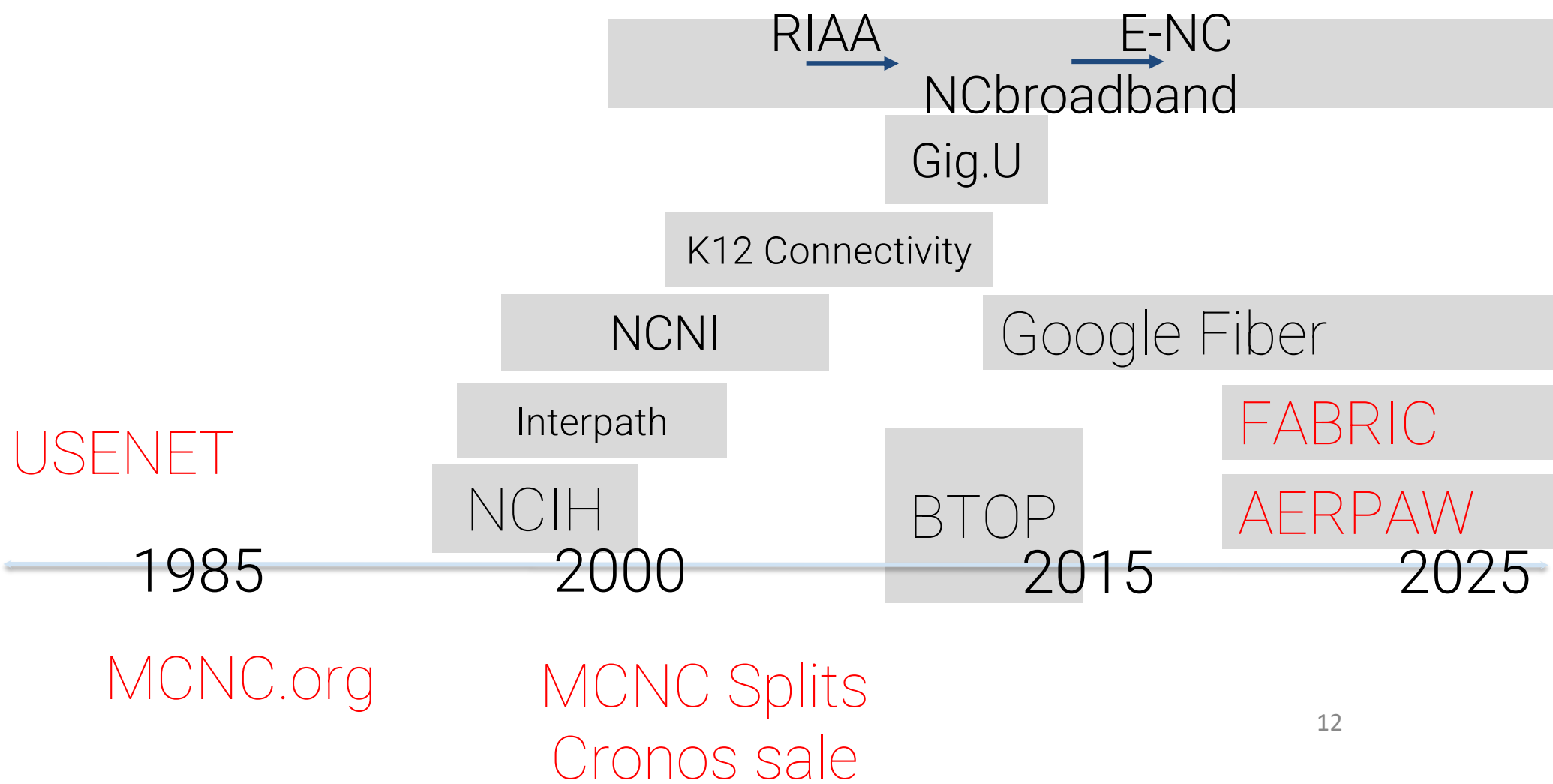
1998-2003

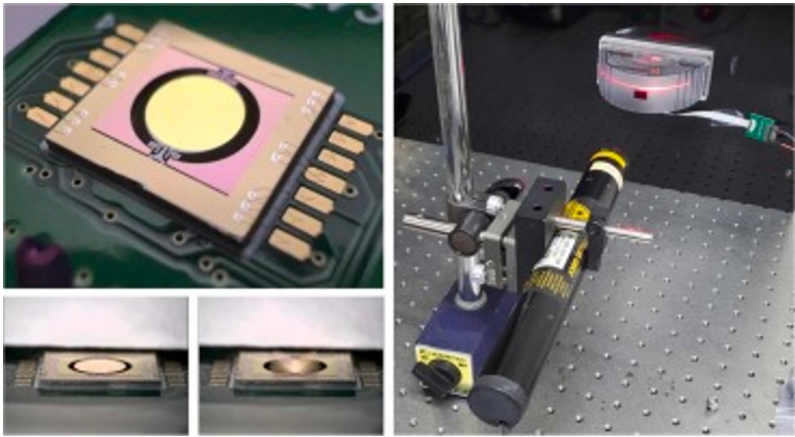
# NCNI

North Carolina Networking Initiative



- Research, application development and infrastructure of the next-generation technologies.
- Early deployment of these technologies and capabilities to serve the production needs of education, business and government.
- Dark fiber (3 pair) IRU from Interpath
- DWDM systems - Cisco, Lucent, Nortel





# MCNC breakup

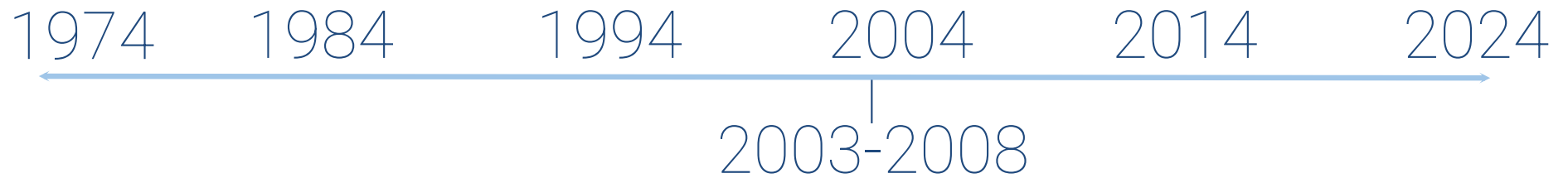


**MCNC**®

  
**NCIDEA**™







# Consolidation

Expansion of fiber network

National Lambda Rail vs Internet2

School Connectivity Program



## Gig.U

Duke, NCSU, UNC and surrounding municipalities

Following Google's fiber announcement

Streamline permitting across jurisdictions

ATT wins RFP, announces Gig fiber service

Google fiber follows close behind Triangle + Charlotte

1974      1984      1994      2004      2014      2024

2010-2013

# BTOP

Two rounds of BTOP:  
    Network core  
    Perimeter of the state  
Make a new market for fiber





# FABRIC

Adaptive Programmable Research Infrastructure for Computer Science and Science Applications

Infrastructure for testing new Internet architectures at scale

Includes computing, storage

Integrates with wireless, IoT

[fabric-testbed.net](http://fabric-testbed.net)

1974 1984 1994 2004 2014 2024



# AERPAW

Aerial Experimentation and Research  
Platform for Advanced Wireless

2020

## Aerial Experimentation and Research Platform for Advanced Wireless



# AERPAW.org



1974      1984      1994      2004      2014      2024

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NCSU Quantum Initiative      2018





What's Next?

