

Regional R&E Networks: Supporting CAI Broadband Needs

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What is The Quilt

- Established in 2000
- 501(c)3
- A collaboration of leading advanced regional networking organizations in the U.S.
- Aim is to promote consistent, reliable, interoperable and efficient advanced networking services that extends to the broadest possible community
- Projects are volunteer led and self-supporting
- www.thequilt.net



Who is The Quilt?



• Three Rivers Optical Exchange



Northern Lights



THE QUILT



Quilt Member Profiles

- Not-for-profit networking organizations serving research and education
- Serving a specific geographic region
- Similar missions to;
 - support research and education
 - collaborate, coordinate and facilitate
 - manage advanced networks
 - provide advanced networking services
 - further knowledge and innovation



Who We Serve

Quilt Members Serve Thousands of Research and Education Related Institutions and Organizations

- Higher Education
- K-12 Schools
- Public Libraries
- Healthcare Institutions; research hospitals, non-profit
- National Laboratories
- Innovation Centers, e.g. research parks
- Community Development; museums, nonprofits, public t.v
- Federal, state, local government institutions and agencies
- Economic development offices and county extension offices



What Makes R&E Networks Unique

- Advanced networking capabilities
- Transformative technology and services
- Building member communities
- Sophisticated technical resources
- Operational transparency and inclusion

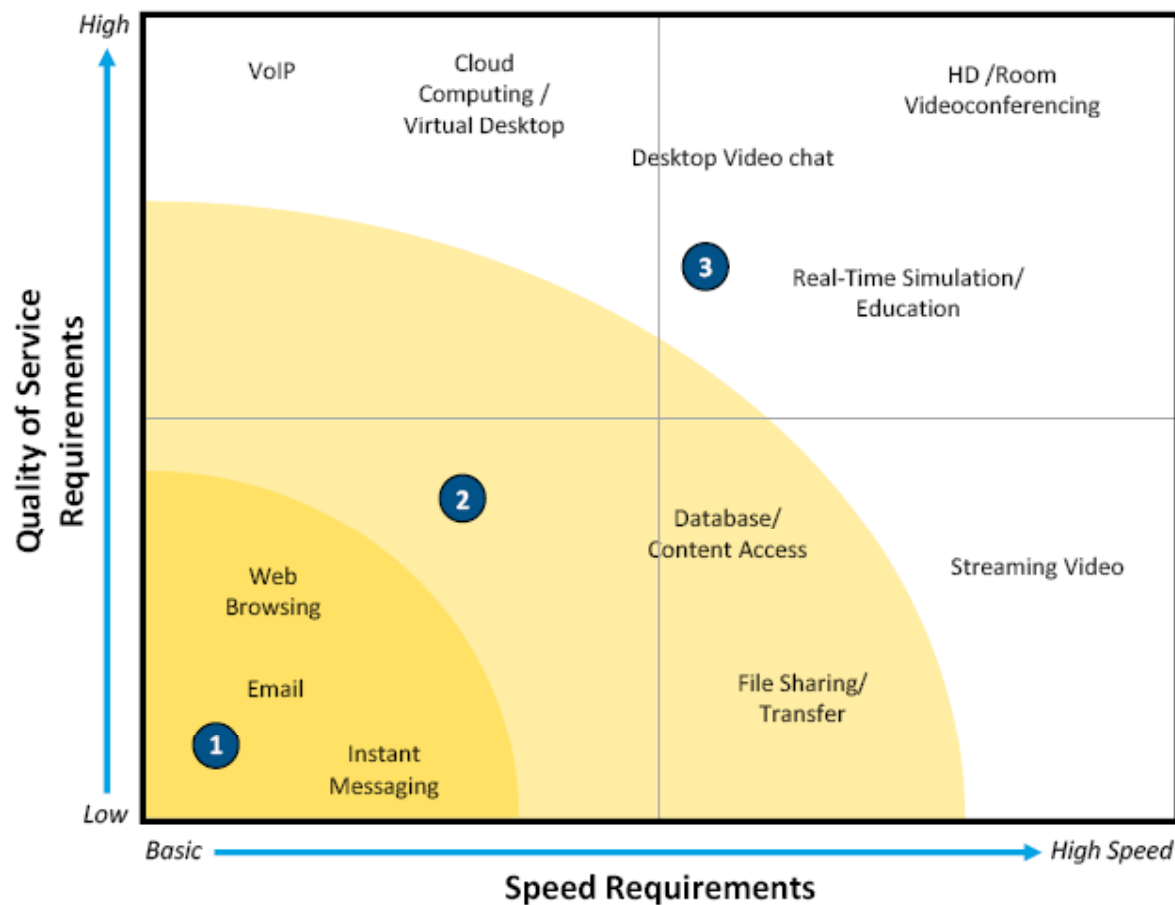


Advanced Networking Capabilities

- Fiber-based facilities allow for most cost-effective, flexible infrastructure
- Designed to ensure network is never a constraint for users
 - Capacity
 - Service fees
- Local, state, country-wide and global access to other institutions



Example CAI Applications and Connection Requirements



Zones denote increasing importance of premium connectivity:

- 1 Basic connectivity is sufficient
- 2 Premium connectivity is helpful
- 3 Premium connectivity is critical

From 2011 Gates Foundation Report “Connections, Capacity, Community: Exploring Potential Benefits of R&E Networks for Public Libraries”



Basic and Value Added Services

Value-Added Services	Examples: <ul style="list-style-type: none">• VoIP, Email• E-rate assistance• Shared resources such as databases or digitized content• Cloud computing services, e.g. storage• Business continuity• Videoconferencing
Premium Connectivity	<ul style="list-style-type: none">• Commodity Internet Service• Access to national R&E/CAI Network• State/Regional network backbone aggregation
Service Fundamentals	Support – Technical, Training, Consulting
	Convener for Communities of Practice



Building Communities

- It's not enough to provide a network connection to a new community
- Regional networks facilitate collaboration and create communities of practice among their users
- By enabling the collaboration of users, regional networks help transform the ways CAIs serve their communities and enrich their patrons' experience



Building Communities

- Community building activities take the form of
 - Member training, workshops, webinars
 - Member meetings and community days
 - Project showcases
 - Online collaboration spaces



Sophisticated Technical Resources

- Regional networks provide training, consulting, support and services specific to the communities they serve
- Regional networks are sophisticated buyers of services



Inclusion and Transparency

- Regional networks are governed by their members
- Members invited and encouraged to participate in organizational councils and leadership positions
- Members provide input on how the regional may better meet connector needs
- Organizations operated in a transparent manner to members



Challenges in Serving CAI's

- Statutory limitations to connect CAIs
- Scope of regional network missions
- Technical staff availability at CAI
- Last mile circuit availability and cost
- Disparate sets of decision-makers for CAI sectors



Overcoming Challenges

- Where CAIs do not connect directly, regionals partner with commercial service providers to connect CAIs to their networks
- In some states, regional networks partner with and connect to other CAI network aggregators
- Partner with private industry to seek additional opportunities to connect CAIs such as BTOP



BTOP and Regional Networks

- Focus of program is to provide affordable broadband access to unserved and underserved areas as well as community anchor institutions
- Serving community anchor institutions is the keystone of many of the regional networks
- BTOP Comprehensive Community Infrastructure grants provide funding to extend networks to reach new communities and improve connections to existing users



Role of R&Es Connecting CAIs

- Regionals Play a Key Role Connecting CAIs
 - Similar missions, participants and philosophies
 - Knowledge of the local environment
 - Enable, innovate, and collaborate
- Quilt Role
 - Provides a forum for regionals to share ideas, best practices and leverage collective experience to better meet member needs
 - Serves as point of contact for external groups to interface with regionals



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