



**MINORITY SERVING-
CYBERINFRASTRUCTURE
CONSORTIUM**



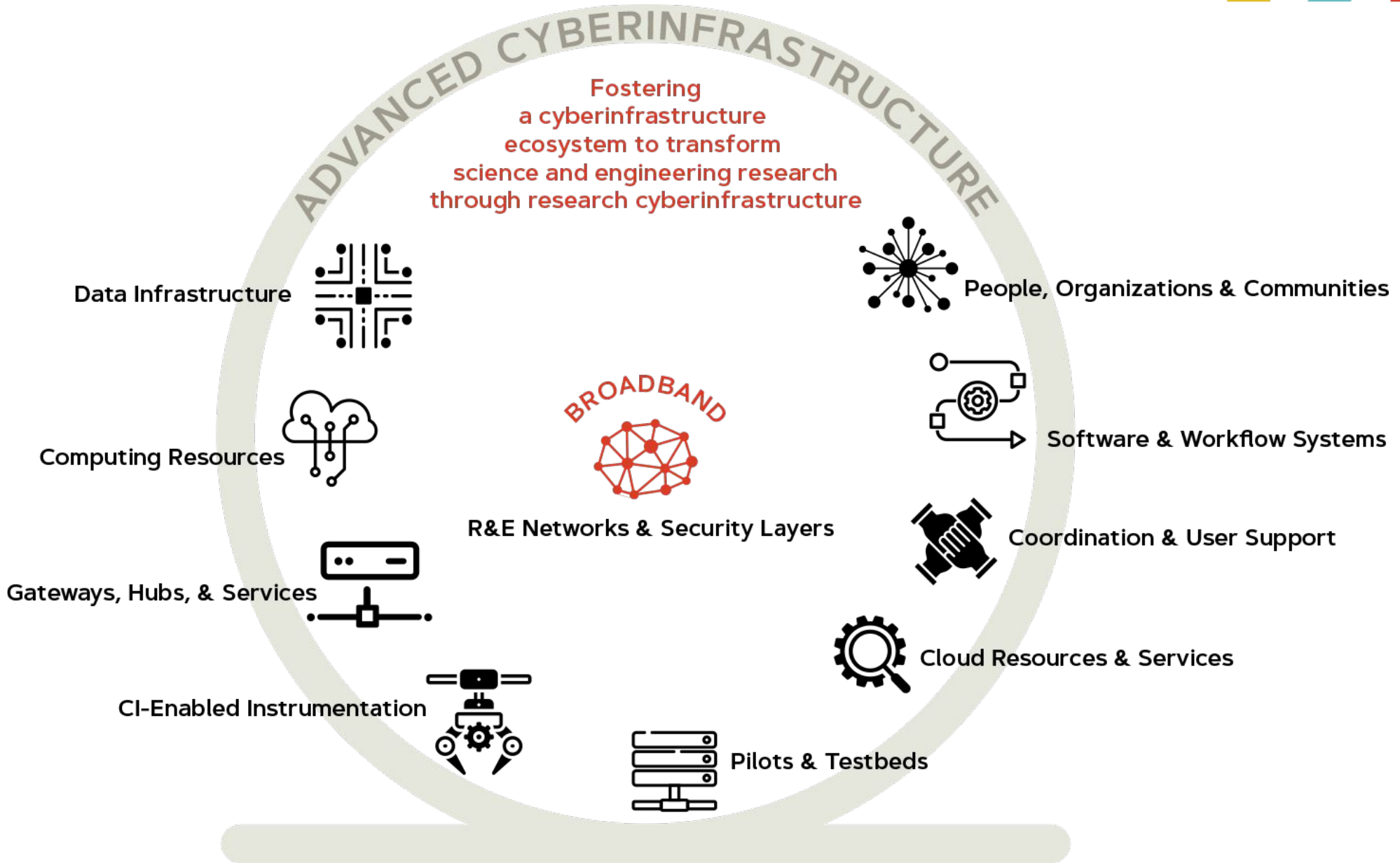
CyberInfrastructure 101

Al Anderson, MS-CC, Director of Cyberinfrastructure Programs
also, a Recovering CIO® (from a Tribal College)



“Cyberinfrastructure”

Information Technology (IT) to Advance Your Campus’s
Data-Driven Research and Education Programs



IT Infrastructure

- **People** to design, implement, and manage the infrastructure
- The Actual Network Hardware
 - Switches, routers, firewalls, fiber optic lines, copper lines
 - Software to monitor and protect the network
- Servers for various services (can be cloud based)
 - High performance computing (HPC)
 - High throughput computing (HTC)
 - Data storage node (DTN)
- Identity Access & Management (IAM)
 - How do you log in and access stuff?
- Policies & Procedures
- User Support
- CI Plan to help guide development
- Network Diagram

Data & its Lifecycle



Impacts to Data-Intensive Education

- Project-based learning
- Experience with real, full-scale datasets
- Modern tools for data science and collaboration
- Large-scale and cloud computing experience
- Increased enrollment, recognizing these strengths

Access to engaging research projects and experiences.



Impacts to Research Programs

- Expanded project scale and scope
- Accelerated outcomes
- Enhanced collaboration capabilities
- New lines of inquiry
- Greater research impact

*Transformative Research
Outcomes and Impact*



REGIONAL RESEARCH & EDUCATION NETWORKS IN THE UNITED STATES



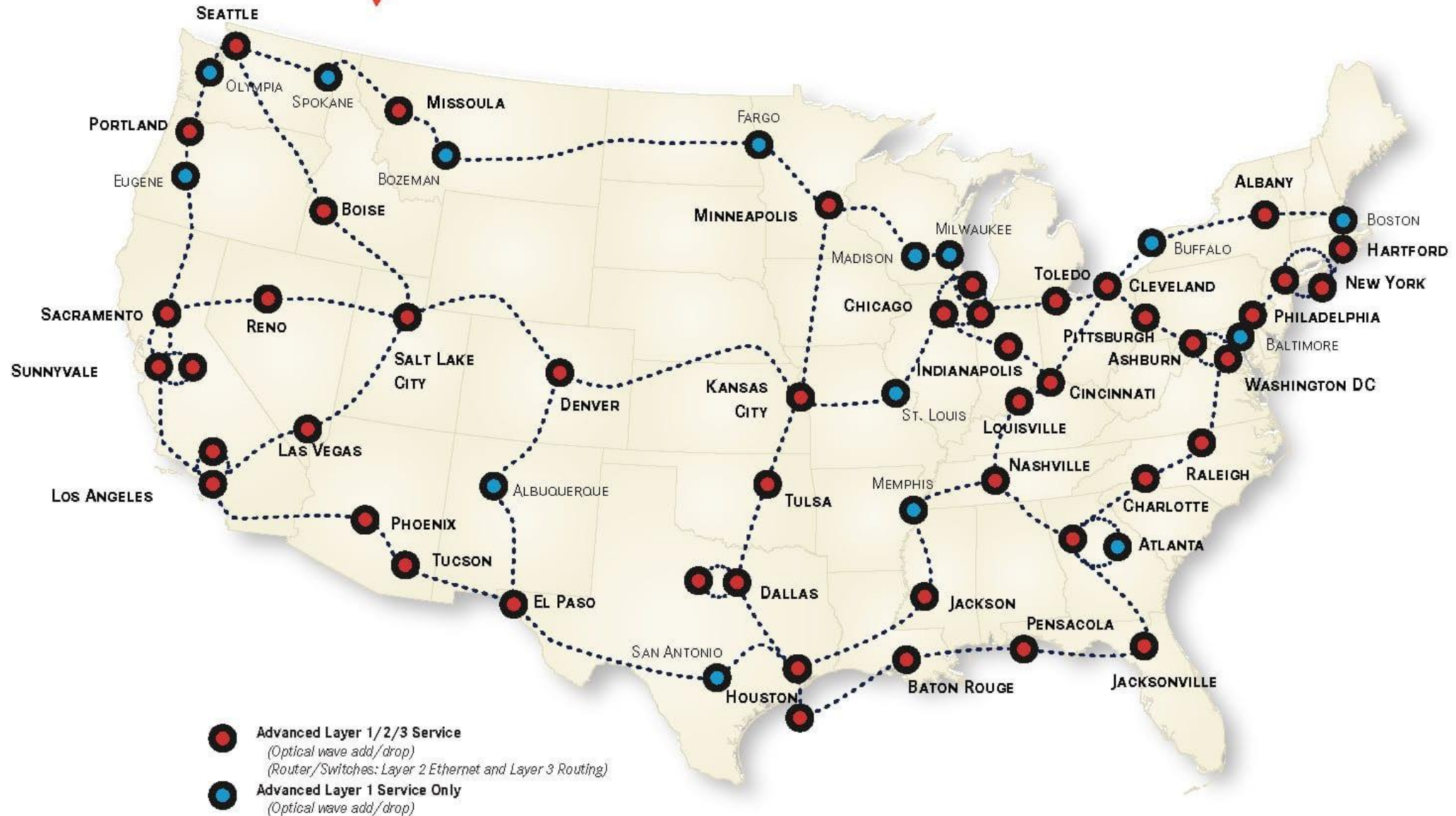
QUILT MEMBERS & AFFILIATES





INTERNET2 NETWORK INFRASTRUCTURE TOPOLOGY

OCTOBER 2020



A National CI Ecosystem of Services to Support Researchers and Campuses

Networks, Data Transfer, & Security



Data Repositories & Storage



Domain-Specific Toolkits and Data Workflows



Science Gateways Community Institute



Scalable Computing & Environments



Training and CI Professional Communities



THE CARPENTRIES



CaRCC Campus Research Computing Consortium



Red Hat Training

Workforce Development for Today's and Tomorrow's IT Professionals

- Research & Education Facilitation
- Network configuration for open science (Science DMZ) and data security
- Linux systems administration
- Data storage and computing systems

“ Access to technology is less [of] an issue compared to access to expertise.”



You Don't Have to Do it ALONE

MS-CC's Programs and Community Can Help You

- Connect with other campuses.
- Learn from each other's endeavors.
- Identify opportunities for shared resources and funding.
- Develop CI capabilities in your students, faculty, and staff.
- Develop a CI strategic plan.



Navigate the CI Ecosystem

- Learn from CI experts.
- Leverage services to enhance CI on your campus.
- Connect your students and faculty with off-campus resources.
- Participate in the broader CI ecosystem.



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Thank you!

Al Anderson, MS-CC, Director of Cyberinfrastructure Programs

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