

Growing Pains: Hidden Risks in Network Expansion

WTA – Advocates for Rural Broadband

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Today's Speaker



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FEASIBILITY & FUNDING



NETWORK DESIGN & ENGINEERING



OSP & NETWORK IMPLEMENTATION



CYBERSECURITY & DATA NETWORKING



REGULATORY COMPLIANCE



OPERATIONS & STRATEGY



VOICE, VIDEO, DARK FIBER & MORE

Start-to-FUTURE Solutions under one roof.

Better broadband means better lives. Vantage Point helps clients deliver on that promise through start-to-finish engineering and consulting services. Our solutions are customized to meet your unique needs and goals from due diligence to deployment – **and beyond.**

Funding Opportunities

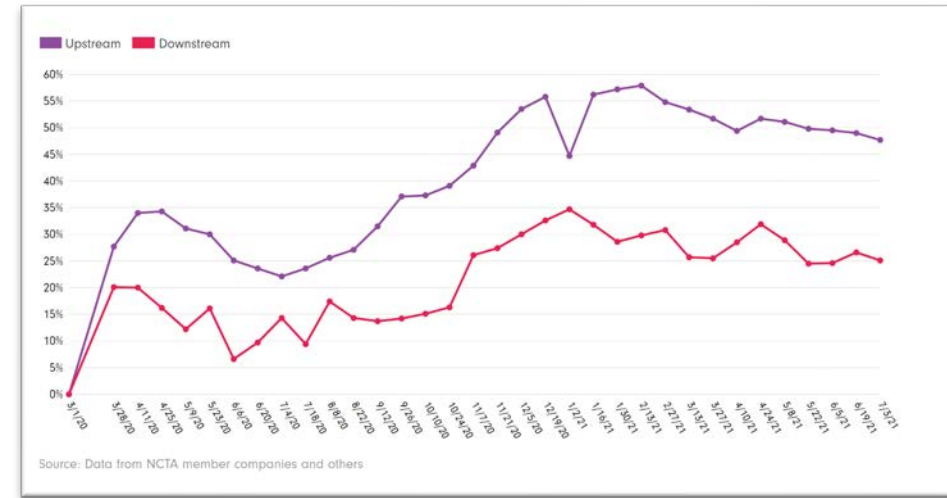
- USDA ReConnect - Round 3
- NTIA - Consolidated Appropriations Act Funding
- American Rescue Plan Act (ARPA)
- Capital Projects Fund (US Treasury)
- \$1T – Infrastructure Bill
- RDOF Phase



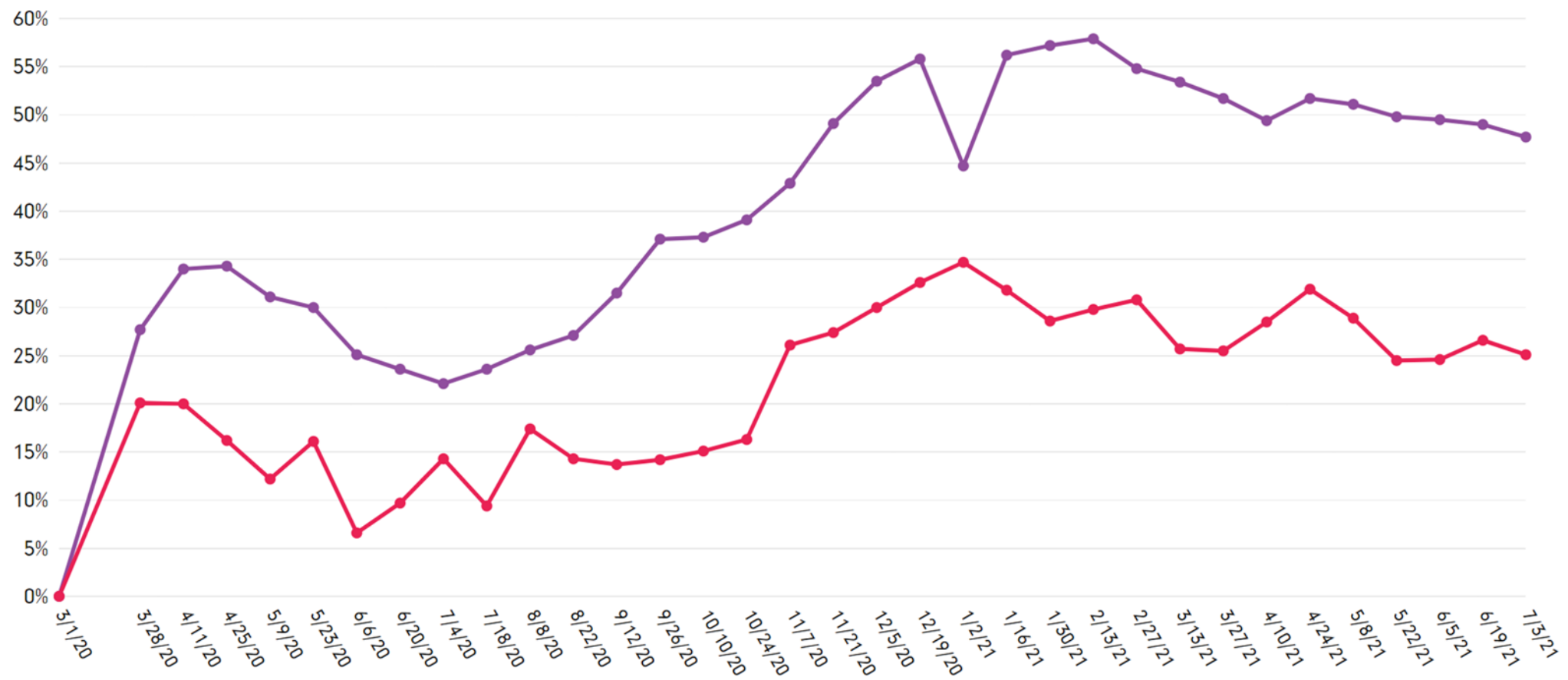
You Received the Funding Now What?

Planning for Bandwidth Growth

- DIA's
- Equipment
- Faster Port Speeds
- Bringing Content Closer
- Cumulative Growth up nearly 25%



Upstream Downstream



Source: Data from NCTA member companies and others

An abstract graphic on the left side of the slide. It features a dark blue background with glowing blue lines and dots, resembling a circuit board or data flow. There are also some binary code (0s and 1s) visible in the upper right portion of the graphic.

Speeds Available on the Network

- Subscriber Bandwidth Packages Increasing
 - See Significantly More Symmetrical Packages
- Cell Circuits Increasing
 - 100M, 1G, 10G

Network Design

- Layer 2 vs. Layer 3
- Current Capacity vs. Future Scalability
- Redundancy
 - Bandwidth in Failed State
- High Availability, Convergence Times
- Simplification



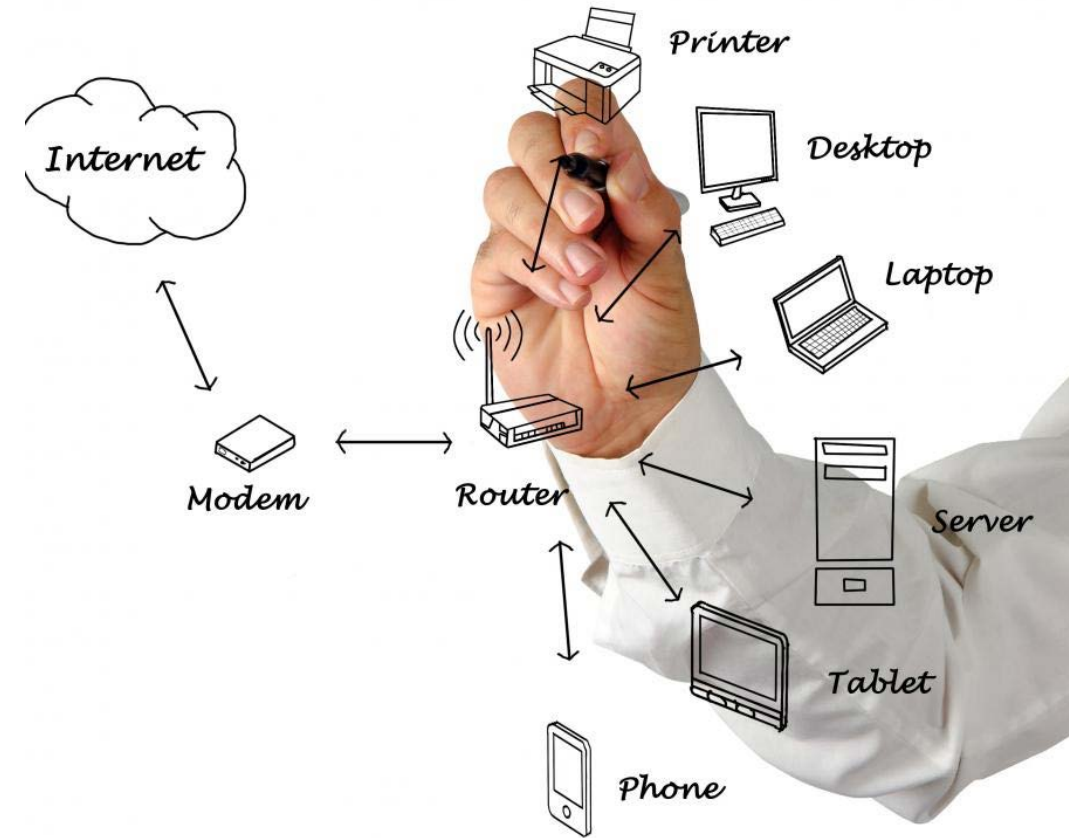


Networking Equipment

- Current Hardware
 - Edge, Core, Transport, Access, Servers
- Capacity Limitations
- Software Upgrades
- Support Contracts
- Sparing

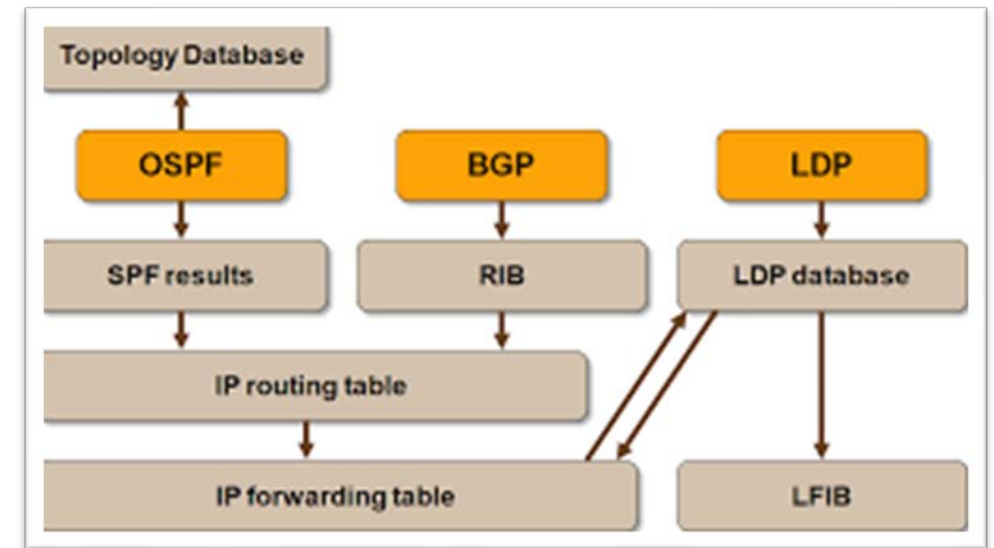
Server Infrastructure

- Everything needs a VM
 - Equipment Management Servers
 - DHCP, DNS Servers
 - Monitoring Servers
- Redundant Server Infrastructure
 - VMWare, Shared Storage
 - Disaster Recovery
- Cloud Hosting
 - AWS, Azure, Linode



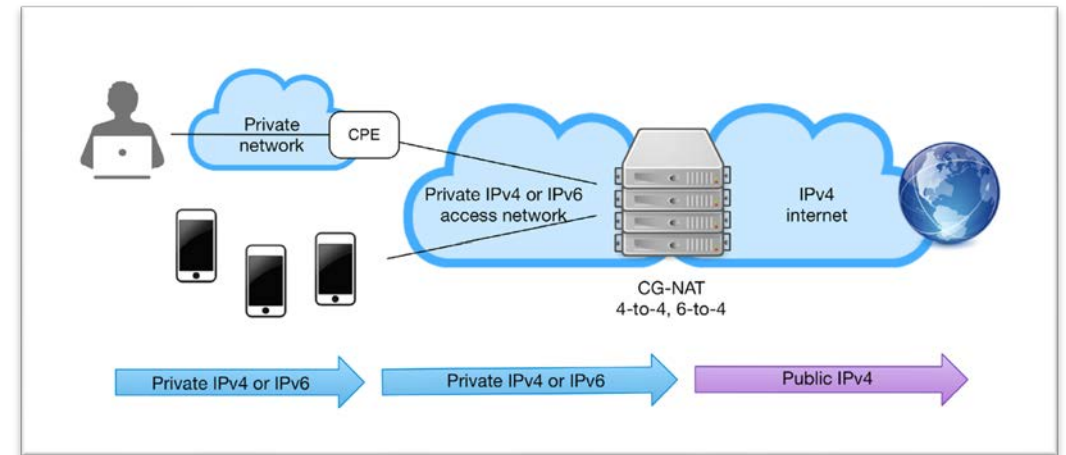
Protocol Interoperability

- Interoperability Between the Old and the New
- What Will Be Used for Loop Prevention
- First Hop Routing Protocols
- Route Redistribution



IP Addressing

- IPv4 Exhaustion
 - ARIN Wait List
 - Broker's
- IPv6 Deployment
 - Carrier Grade NAT
 - IPv4/IPv6 Dual Stack





Network Monitoring

- Being Proactive vs. Reactive
- Congestion
- Availability
- Alerting
- Environmentals
- Power

Network Security

- Equipment Hardening
- Network Segmentation
- DDoS Protection
- Ransomware



Staffing and Education

- Growing the Team
 - Difficulty finding experienced people
- Training for New and Old Team Members
- Outsourcing Larger Projects



Customer Experience

- Online Presence
- Ticketing
- After Hours Support
- Follow-up





THANK YOU





We are the
BROADBAND PEOPLE.