

Local Infrastructure

Connecting to Online Resources

Common Concerns

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VISION

To create a world-class educational system that gives students the knowledge and skills to be successful in college and the workforce, and to flourish as parents and citizens

MISSION

To provide leadership through the development of policy and accountability systems so that all students are prepared to compete in the global community

MISSISSIPPI STATE BOARD OF EDUCATION
STRATEGIC PLAN GOALS

1

All Students Proficient and Showing Growth in All Assessed Areas



2

Every Student Graduates from High School and is Ready for College and Career



3

Every Child Has Access to a High-Quality Early Childhood Program



4

Every School Has Effective Teachers and Leaders



5

Every Community Effectively Uses a World-Class Data System to Improve Student Outcomes



6

Every School and District is Rated “C” or Higher



Common Concerns

Heavy Internet Traffic: Local Needs

- Accessing online content/services (especially multimedia) for instruction, professional development, and testing
- Using the internet for business operations, including public engagement, social media, office applications and email, software updates, and data uploads to MSIS
- One-to-one initiatives and bring your own device (BYOD) add demand

Types of Common Concerns: Inside

- More information traffic than the local network can handle – this is known as an “oversubscription”



- Equipment or its configuration/setup not aligned to needs so internet speed is unintentionally slowed – this is known as a “bottleneck”

Types of Common Concerns: Outside

- Junk information overwhelming legitimate information – these attacks are often generated outside of the district



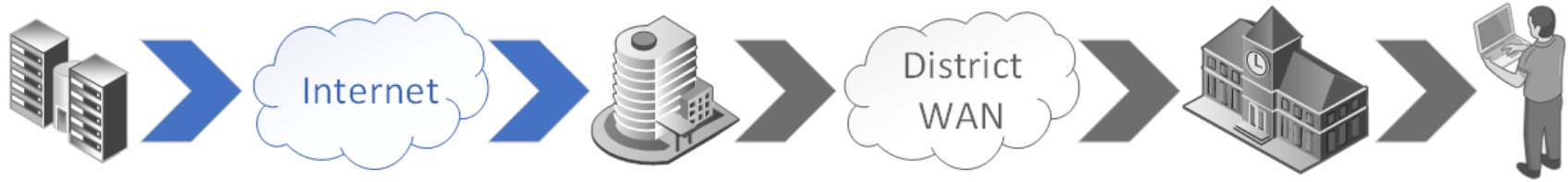
Local Infrastructure

Concerns Can Arise at Different Points



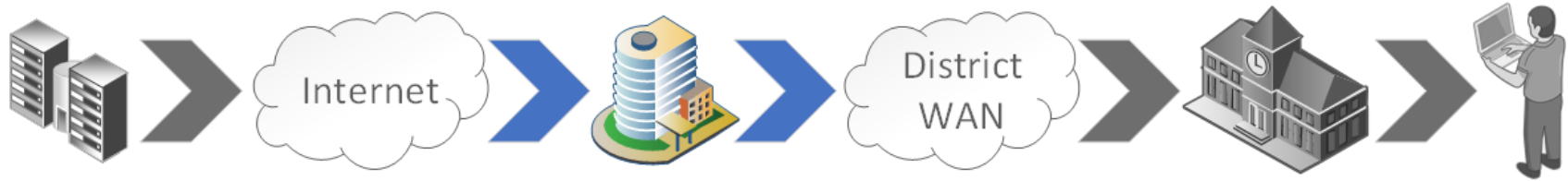
- Content/Service Source
- Internet
- District Central Office
- District Wide Area Network (WAN)
- Campus Local Area Network (LAN)
- Student Devices

Internet: Is There Adequate Bandwidth?



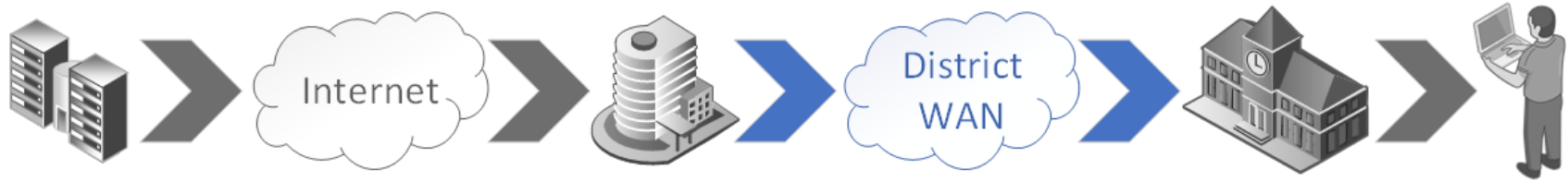
- Bandwidth from the district's internet service provider (ISP) is not adequate for what the district needs: if internal traffic is twice as heavy as the external bandwidth, oversubscription will occur.
- The MDE monitors Internet usage for (87) districts within the state consortium.
- Internet access is a Category 1 reimbursable through E-Rate.

Central Office

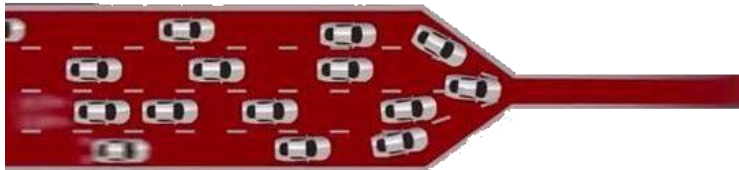


- Districts connect to the internet using different types of network equipment, such as firewalls, web content filters, routers and switches.
- If the equipment is not adequate to handle the traffic – or if the equipment is configured to a lower speed – the central office can create a bottleneck, unintentionally slowing down traffic.
- Firewalls, routers, and switches are a Category 2 reimbursable through E-Rate. Web content filters, however, are NOT eligible.

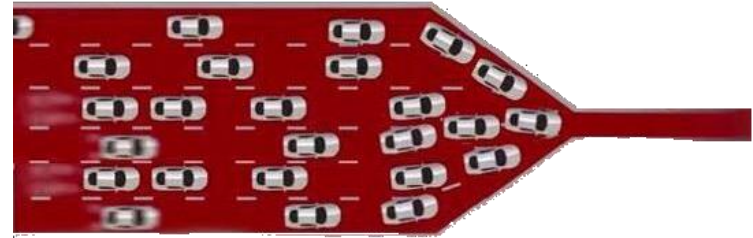
District Wide Area Network



- Most problems here occur when the connection to the Central Office is not properly sized to handle the traffic from all the schools.
- If this is your problem...

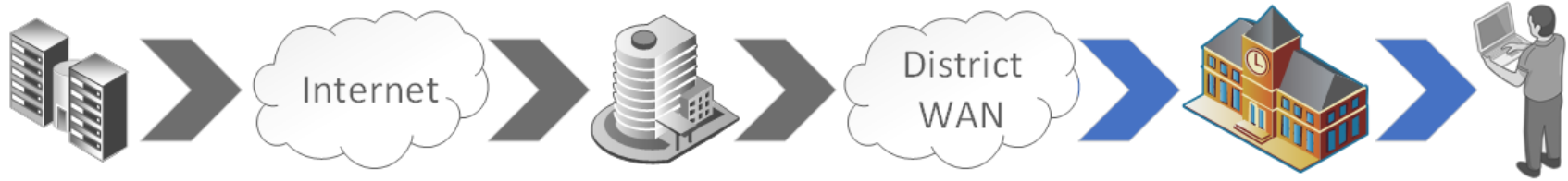


This is not your solution.



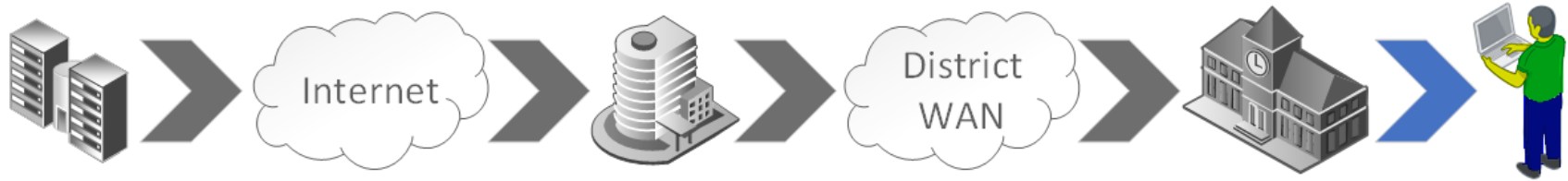
- Connectivity between schools is a Category 1 reimbursable through E-Rate.

School



- Bottlenecks can occur in both wireless and wired network equipment.
- Wi-Fi at home is easy. Wi-Fi for a 1 to 1 school can be a challenge to get right: where are the access points, where are the devices, do they move with students, what types of building materials are between the students with devices and the Wi-Fi access points?
- Switches, wireless equipment, and their initial setup are a Category 2 reimbursable through E-Rate.

Student Devices



- How many (types of) devices are in use? Are they all in good working order? Are they district-controlled devices or do students bring their own? How are students logging into devices? How are devices accessing the network?
- Do all of the devices have the required programs and software updates? Does the district have any way of managing the devices to know which devices are up-to-date and which are not? Do the devices meet the minimum specifications for the content/service?

Support for Districts

Help Is Available

- District vendors – including internet service providers (ISP) and equipment suppliers – can help with testing, initial set-up and configuration. E-Rate (Category 2) can help!
- Districts can ask vendors for information and suggestions during local solicitation processes, or can ask vendors to include support services into their proposals for broadband and local network equipment.

Help Is Available

- MDE's Office of Technology and Strategic Services (OTSS) and our engineering contractors can support districts as they work through issues.
- Non-profits (e.g., E-rate Central) and self assessment tools (Future Ready) can help districts look ahead to determine needs going forward and stay ahead of expanding broadband needs.



MISSISSIPPI
DEPARTMENT OF
EDUCATION

Ensuring a bright *future* for every child

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