

Ohio K-12 Network Connectivity Requirements For 2009-20010

The following rules comprise the technical requirements for eligibility for Ohio educational entities (as determined by the Ohio Department of Education) to participate in the Ohio K-12 Network:

1. Connectivity between the buildings and the Ohio K-12 Network must comply with one of the three approved logical connectivity models as illustrated in Exhibit "A" of this document. The logical connectivity model in use must abide by all other rules as established by this document.
2. Effective in FY08, direct connectivity from districts to the core of the network is no longer an eligible connectivity model.
3. All funded network connectivity options must operate in full-duplex network transmission modes and the minimum bandwidth to any building must be at T1 (1.55Mb/sec) speeds or greater bi-directionally.
4. The preceding requirement notwithstanding, districts that use connectivity model #3, where multiple buildings connect back through a single intermediate access point, must adhere to the 4:1 connectivity ratio. This means that no single T1 may support more than four individual buildings in the upstream direction to the Ohio K-12 Network.
5. For connectivity models #2 and #3, including managed services (i.e. fixed bandwidth IP-based services provided by a local carrier or vendor) and wireless services, connections are eligible provided that the following conditions are true:
 - a. At OSI Layer 2 the customer is provided a dedicated, private network, isolating all network traffic from other customers of the services provider (e.g., VLAN, VPN or private physical network).
 - b. The customer must have full Layer 3 control (e.g., control of the routers to determine routing, open ports, transmitted protocols, access lists and other IP management or security features, etc.) over the service.
 - c. The service meets all other requirements as stated in this document.
7. In order to be eligible for funding, all data being sent over wireless wide area network connections must be encrypted using a minimum of a 64 bit encryption method, and preferably a 128 bit method.
8. Districts/buildings/ITCs must use the Ohio K-12 Network designated ISP as their primary connection to the Internet. Secondary ISP utilization is acceptable only if the following conditions are met:

a. The entity must obtain and utilize its own IP address space through ARIN and relinquish the use of any/all IP address space previously provided to the entity through the Ohio K-12 Network.

b. The entity must establish a multi-homed network with BGP routing enabled in such a manner that first priority is given to the ISP provided through the Ohio K-12 Network.

c. Sites can not use Ohio K-12 network program funding to acquire secondary ISP services unless the funding is specifically designated for this purpose.

9. Right of Review is not guaranteed. These rules are designed to ensure a stable, reliable and secure network for all entities participating in Ohio K-12 Network. They were designed to be consistent with the understanding of technologies and services available at the time the rules were adopted. For most cases the denial of an application based on failure to adhere to one or more of the specified connectivity requirements will be considered final. However, a district may request that the committee review a new technology or service by submitting a request in writing via their local ITC. The Ohio K-12 Network Committee may consider a review at their sole discretion, and the right of review is not guaranteed.

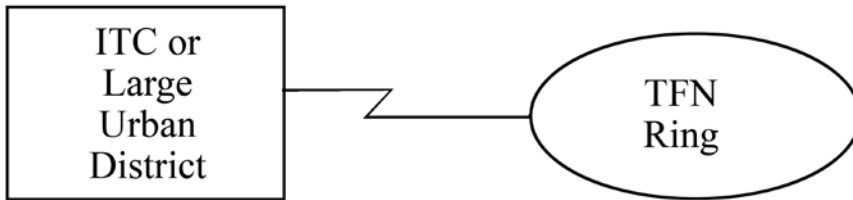
Revised: July 31, 2009

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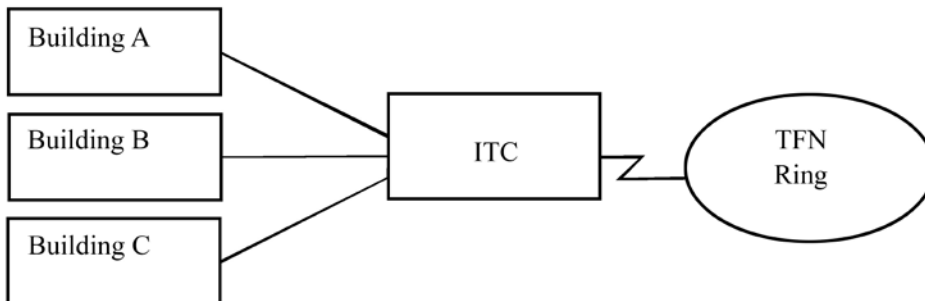
Exhibit A: Ohio K-12 Network Approved Logical Connectivity Models

Model #1 – Direct Connection to the TFN Ring

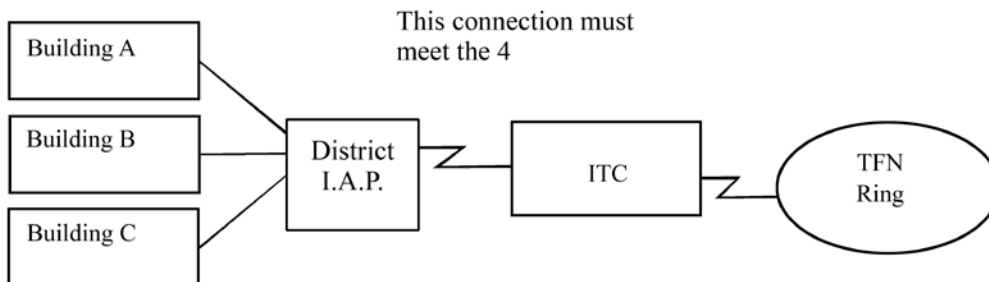
This model is approved for ITCs, large urban school districts or other entities only with explicit approval granted by the Ohio Department of Education or its delegates.



Model #2: Building to ITC



Model #3: Building to District Intermediate Access Point to ITC



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Frequently Asked Questions

1. Can wireless be used to connect between buildings or from a district to the ITC?
 - a. *Yes. Wireless wide area network connections are allowable provided they meet the requirements as stated in rule #7.*

2. The local franchise agreement in my community provides for free cable modem access to the Internet. Is my building eligible for the connectivity subsidy if I utilize this option?
 - a. *In most cases, cable modems do not meet the requirements of the program, and therefore these connections would NOT be funded.. This specifically includes the requirements for approved model (rule #1), full duplex and minimum bandwidth (rule #3), OSI layer rule (rule #6) and utilization of the designated K-12 Internet provider (rule #8). Failure to abide by any of these rules would make a connection ineligible for the connectivity subsidy.*

3. Our district utilizes our own ISP. Can we connect back to the K-12 Network using a VPN network via the Internet. Can we be funded?
 - a. *No. This violates rules #1 and #8. While this may seem arbitrary, the rules governing the Ohio K-12 Network were designed to provide an increased level of stability and security for all participants, and there are additional cost implications that have to be considered. The Ohio K-12 Network is designed to allow QoS for voice, video and data applications. Quality of Service (QoS) can't be controlled in the public Internet. Also, the Ohio K-12 Network would have to purchase Internet bandwidth to accommodate this type of connection. Packets traveling within the Ohio K-12 Network do so at considerably lower cost than packets that traverse the public Internet.*

4. Our subsidy application was denied for technical reasons, and we do not agree with this decision. Is there an appeal process?
 - a. *Decisions regarding specific applications are generally final. However, a district can submit a review request in writing via their local ITC. The Ohio K-12 Network Committee may consider a review at their sole discretion, and the right of review is not guaranteed.*

5. How can I spend my Ohio K-12 Network funds?

a. The funds provided by this program are to be spent using the following priorities:

- To help offset the cost of your T1 or greater connection to the Ohio K-12 network
- To help offset the cost of obtaining Internet bandwidth, and the associated
- Management fees, from your Ohio K-12 Network provider
- To help offset equipment purchases, or equipment maintenance necessary to connect to the Ohio K-12 network