Is your site truly ready for a 1-to-1 rollout? Use the following rubric to assess how robust your site's current information technology infrastructure is. Rate the components of your site's existing infrastructure as Excellent, Good, or Not Recommended.

Assumptions: The matrix below was crafted for a school with about 30 classrooms, multiple buildings, or data closets (IDFs) within a single site, with an average of 20-25 students in a classroom.

Note: This matrix is not meant to be all-inclusive or all-encompassing. It was designed to highlight key components of the network infrastructure your organization needs to consider when designing a 1-to-1 infrastructure. For example, it does not cover the configurations of your router, firewall, content filtering system, or other networking equipment, because they vary from school to school. However, these components are important to take into account so they are not the bottleneck in your network design.

Criteria/Tech Areas	Excellent	Good	Not Recommended
Network cabling can handle extra traffic.	CAT6, 1 Gbps-capable wiring	CAT5e, 100 Mbps-capable wiring	CAT5, <100 Mbps-capable wiring
IDF to MDF connections are higher by one increment. If you are starting from 100 Mbps connections, move to 1 Gbps. If you are starting from 1 Gbps, move to 10 Gbps.	10 Gbps uplinks to MDF	1 Gbps uplinks to MDF	100 Mbps uplinks to MDF
IDF/MDF Network Architecture is optimized for increased bandwidth.	2 port bonded/etherchannel connections from IDF to MDF	1 port to 1 port IDF to MDF uplink ratio	Daisy-chained switches at IDF
Expand DHCP (and/or VLAN, if needed) scope.	2-3 IP addresses per student	1 IP address per student	Shared IP pool of addresses
Adjust DHCP renewal.	24-hour renewal time	12-hour renewal time	< 12-hour renewal time
Internet bandwidth can handle exponentially increased upload and download traffic. (Whatever you think you need, take that number and double it. This is your goal. Do not underestimate how much the school will be uploading.)	75-100 Mbps	50-75 Mbps	<50 Mbps
Core/MDF switches are rated to handle your exponentially increased traffic volume. **Note:** Each network architecture is built for the volume of connections, users, and traffic. These numbers do not reflect this. Consult with your network architect/engineer.	At least 800 Mbps-1 Gbps per switch (this will depend on total number of users)	Between 500-800 Mbps per switch	250-500 Mbps per switch

Criteria/Tech Areas	Excellent	Good	Not recommended
Closet/IDF switches are rated to handle exponential increase in traffic volume.	At least 1 Gbps per switch	100 Mbps per switch	<100 Mpbs per switch
Wireless access points are rated to handle extra device load simultaneously.	802.11n > 750 Mbps volume		
Wireless access points have proper coverage to handle a class full of devices downloading or uploading simultaneously (building for surge, not average use).	One/two 802.11n WAPs per classroom (depends on site)	One 802.11n WAP per classroom (depends on site)	Shared WAPs (1 WAP for 2 classrooms) (depends on site)
Support staff can handle increased volume of simultaneous calls. (Make sure support expectations are clearly communicated to faculty.)	< 1:100 ratio (1 staff to 75 users) without central DMS, device management system 1:150 ratio with Device Management System (DMS)	1:150 ratio without central device management system; 1:150-200 ratio with DMS	> 1:150 ratio without central device management system 1:200 or higher with DMS
DMS or mobile device management (MDM). This significantly depends on how your 1-to-1 program is designed. Do students own their iTunes accounts, devices, etc.? Who is responsible for purchasing apps, restrictions, etc.? In some cases, you may choose not to use an MDM at all. The best way to think about an MDM is to ask yourself what you want to control or manage – then find a product that has those features.	Fully-fledged MDM (these are currently undergoing rapid development).	Lightweight MDM (reduced features)	None
Wireless printing infrastructure	Wireless printers available	Wired printers connected to central print server	Wired printers only
App/software purchasing system	Volume purchasing account with plan/ schedule for purchasing and distribution.	Student managed app purchasing	No app purchasing or distribution plan
iTunes accounts: You need to decide how you are managing iTunes accounts. Are they student/family owned (remember age 13 limit), school-owned, shared, or other?	Student/family owned (this really depends; less management but less control).	School-owned (this model requires extra work by IT staff).	No plan
Web filter/Internet connection monitoring	Robust Web filter that blocks by packet data and URL	Standard URL-based filter	None
iPad printing: Consider how much you really want to print. There's an opportunity with a 1-to-1 program and digital workflow to reduce printing significantly.	Airprint capable printers or no printers.	Print "server" software. Allows iPad to print through computer with installed software.	N/A

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