

Quality Issue: Ten Gigabit Network Upgrade

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<p>Issue Description: The Laboratory's current network connection is 1 gigabit throughout the Laboratory and to the Internet Service Providers (ISP): ISU and ESNET. Network devices, fiber plant, firewall and intrusion detection systems will be impacted.</p>	<p>Countermeasures: Purchase new switches, routers, firewall and intrusion detection devices. Upgrade the fiber plant.</p>
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Goal: To increase the network connections from one gigabit to ten gigabit throughout the laboratory

Implementation:			
Item #:	Description	Who	When
1	Identify equipment and develop specifications	IS	6/1/2012
2	Identify vendors and request quotes	Procurement	7/1/2012
3	Purchase equipment	Procurement	9/1/2012
4	Implement fiber plant	Tri-City	10/1/2012
5	Implement copper switches in Wilhelm and Spedding	IS	3/1/2013
6	Implement firewall	IS	5/1/2013
7	Implement equipment: core and border switches	IS	6/1/2013
8	Implement server and storage switches	IS	12/1/2013
9	Implement edge switches	IS	4/1/2014
10	Implement switches in outlying buildings	IS	7/1/2014

Root Cause Analysis:
1. Traffic spikes from central server rooms were frequent. 2. Researcher requests for faster network connections to support the transfer of large datasets to and from remote computation facilities and remote visualization of these datasets. 3. Reported internal data transfer problems. 4. Server virtualization and central storage will require faster network connections. 5. The implementation of desktop virtualization will require faster network connections.

