

CC-NIE (2013) PI Meeting  
April 2014

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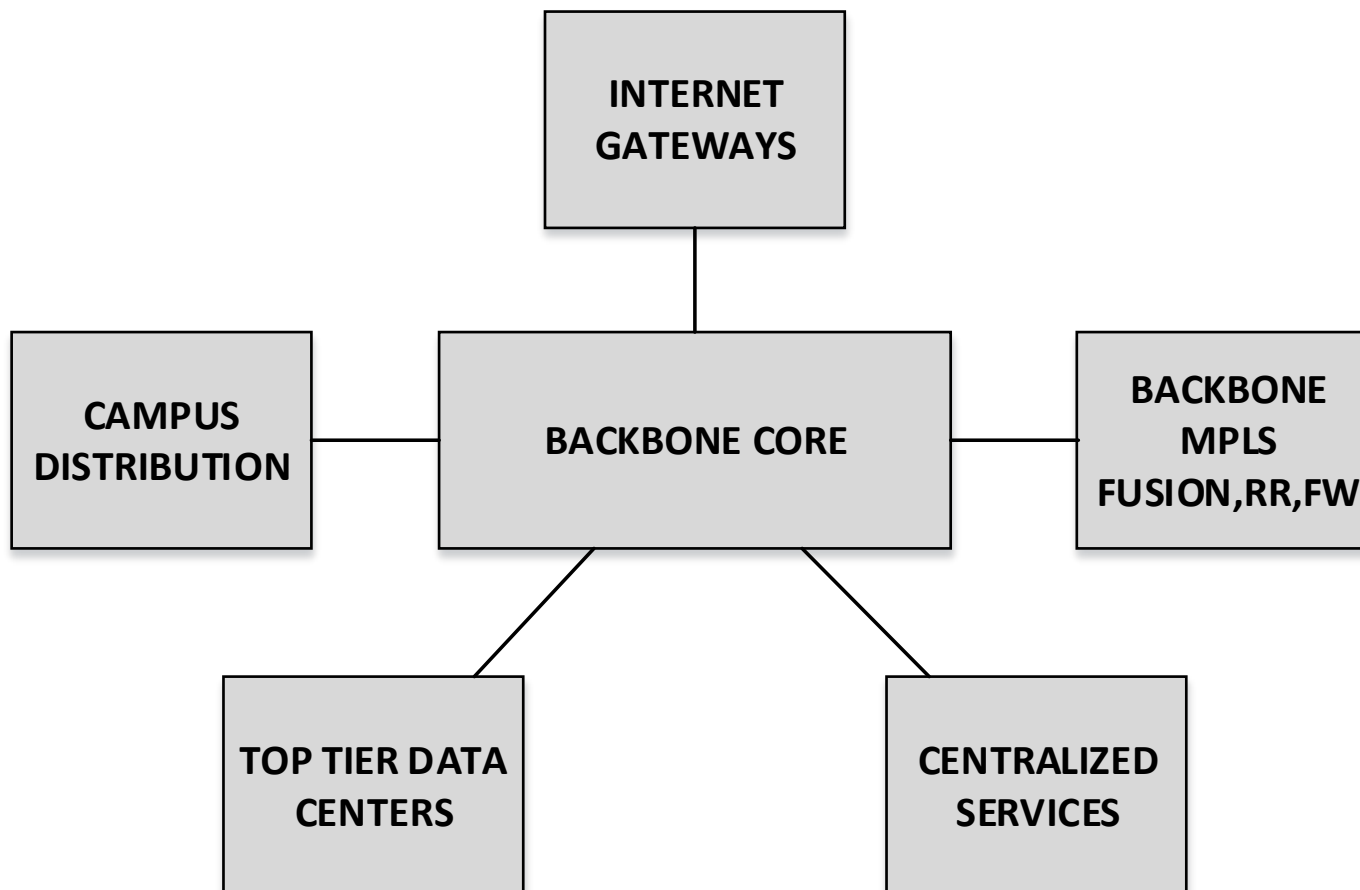
## NCSU Metrics

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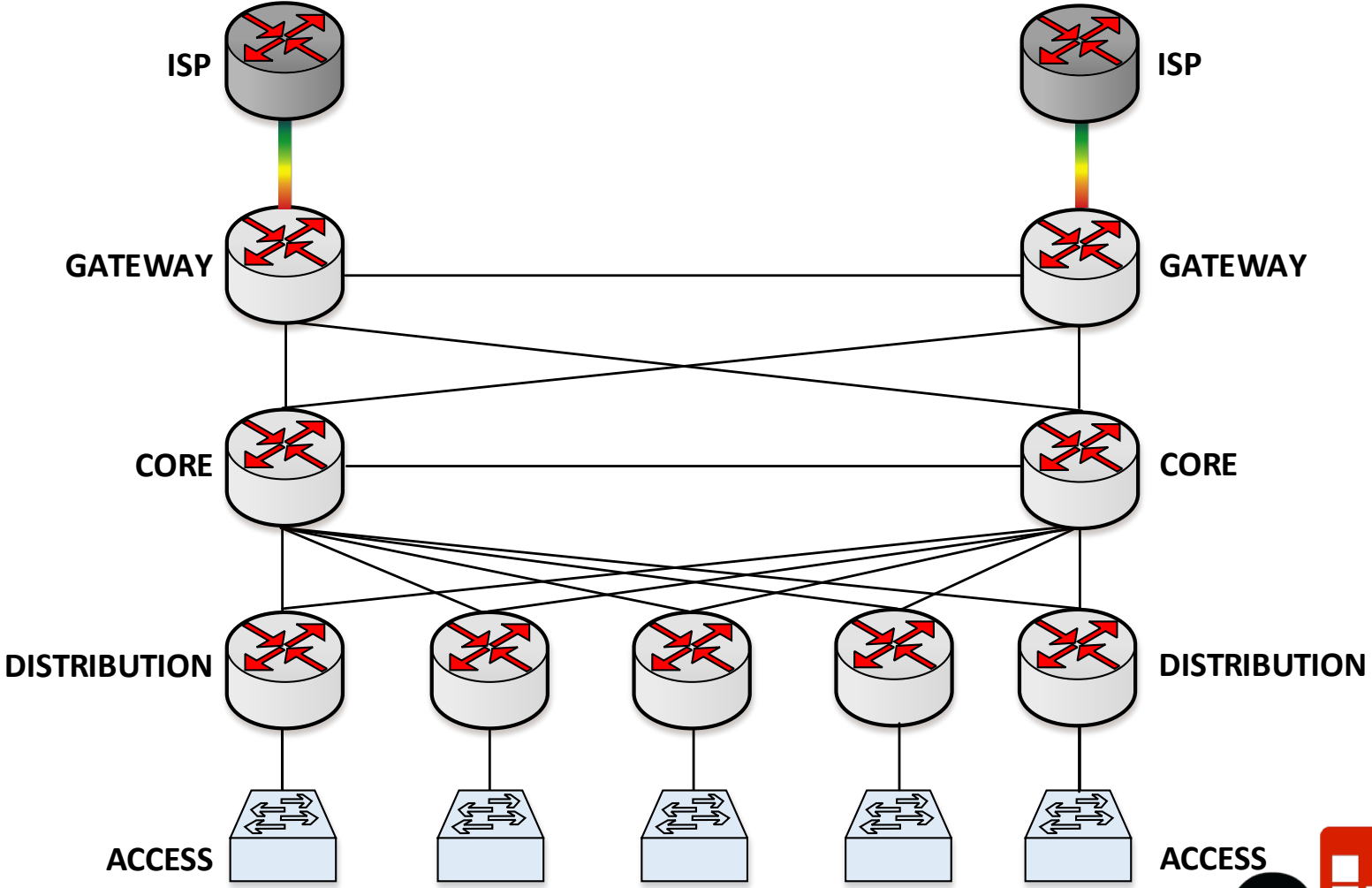
- Land grant university founded in 1887 – focus on STEM
- > 34,000 students
- > 8,000 faculty and staff
- > 78,000 switch ports (mostly 10/100 Mb/s)
- > 2,000 switches
- > 1,900 wireless access points (802.11N/AC on 100 Mb/s switch port)
- 3 /16 (Class B) IPv4 Networks ; 1 /32 IPv6 Network
- ~3500 Analog Phones via VoIP Gateways ; ~5800 VoIP Handsets



# Architecture – Block Diagram



# Architecture – Gateway, Core, Distribution, Access



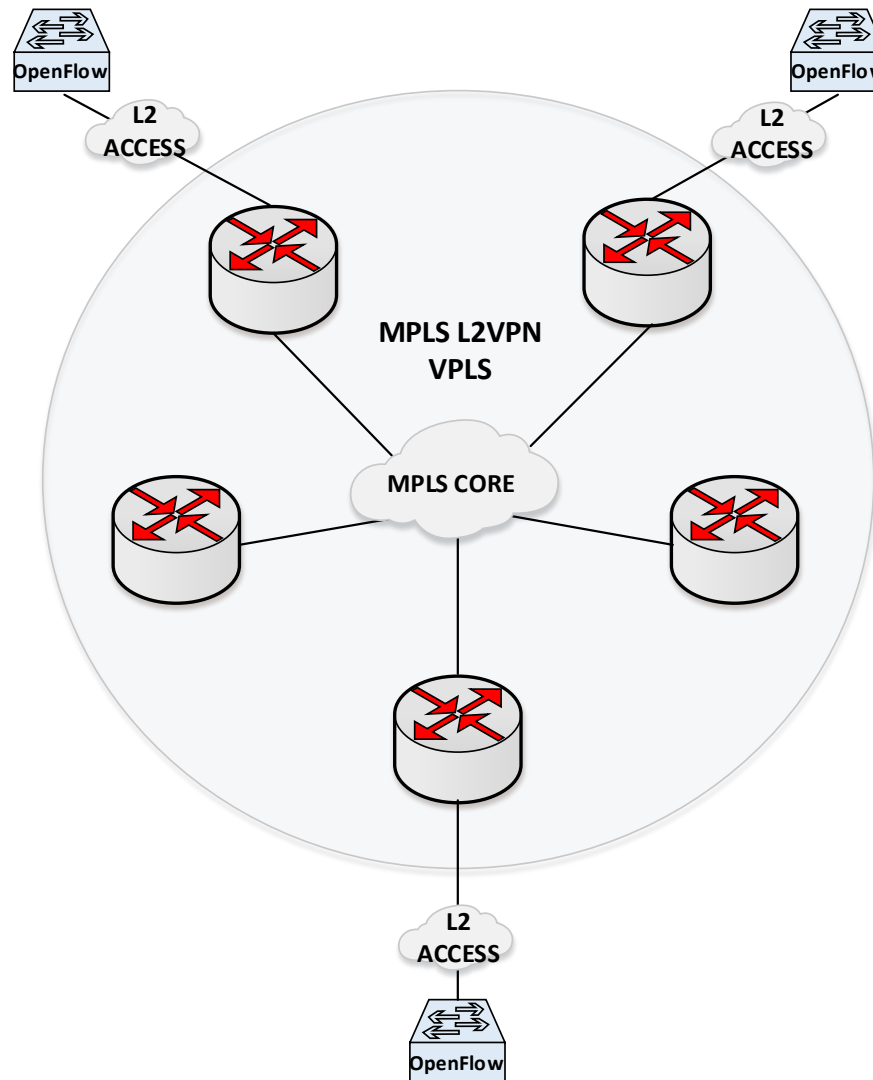
## CC-NIE 2013 Goals

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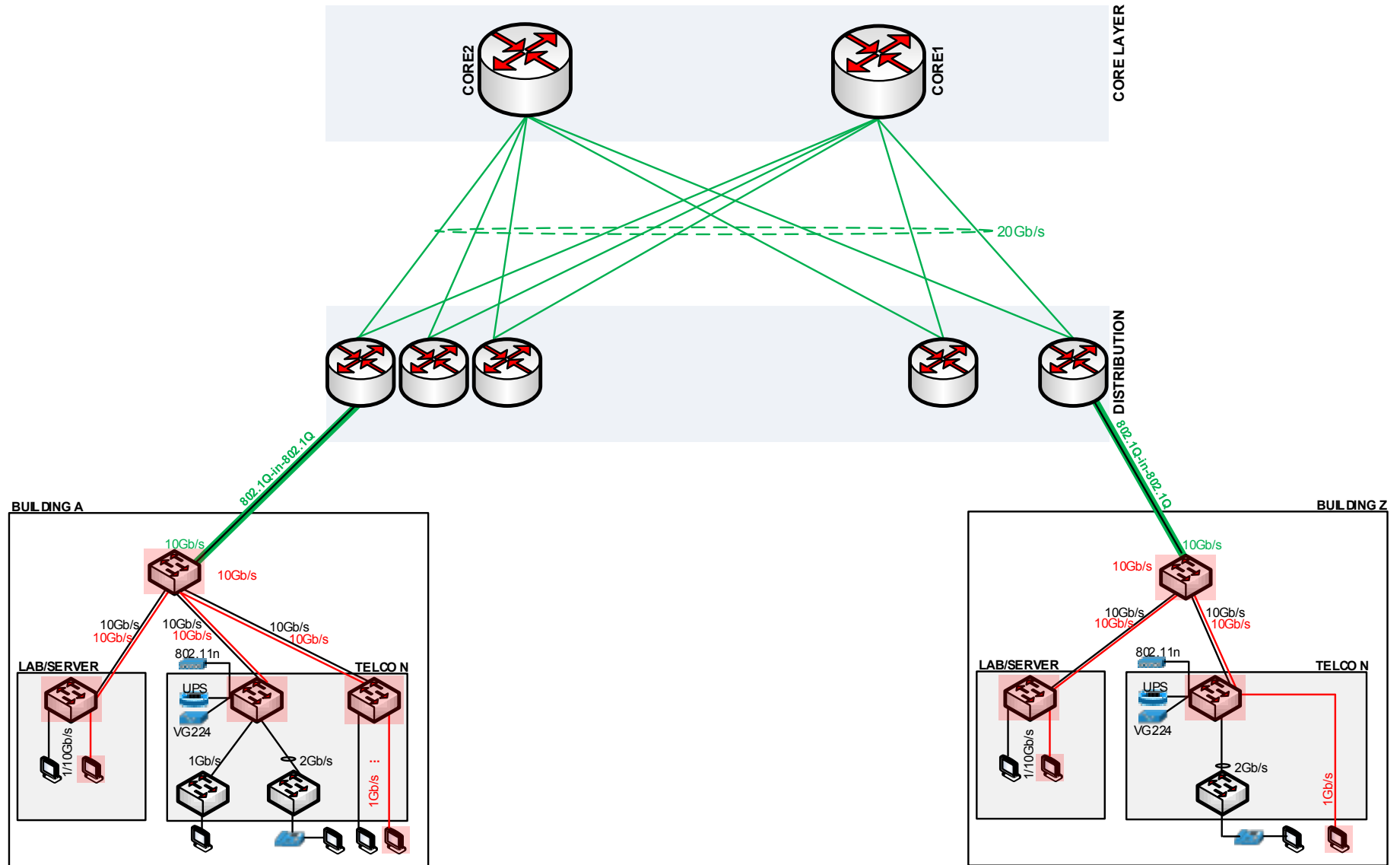
- **Provide 1Gb/s or 10Gb/s connectivity to researchers as needed**
- **Select equipment that will support SDN functionality**
- **Use SDN and classic mechanisms to build virtual Science DMZ**
- **Provide connectivity to regional SDN test bed and I2 AL2S**



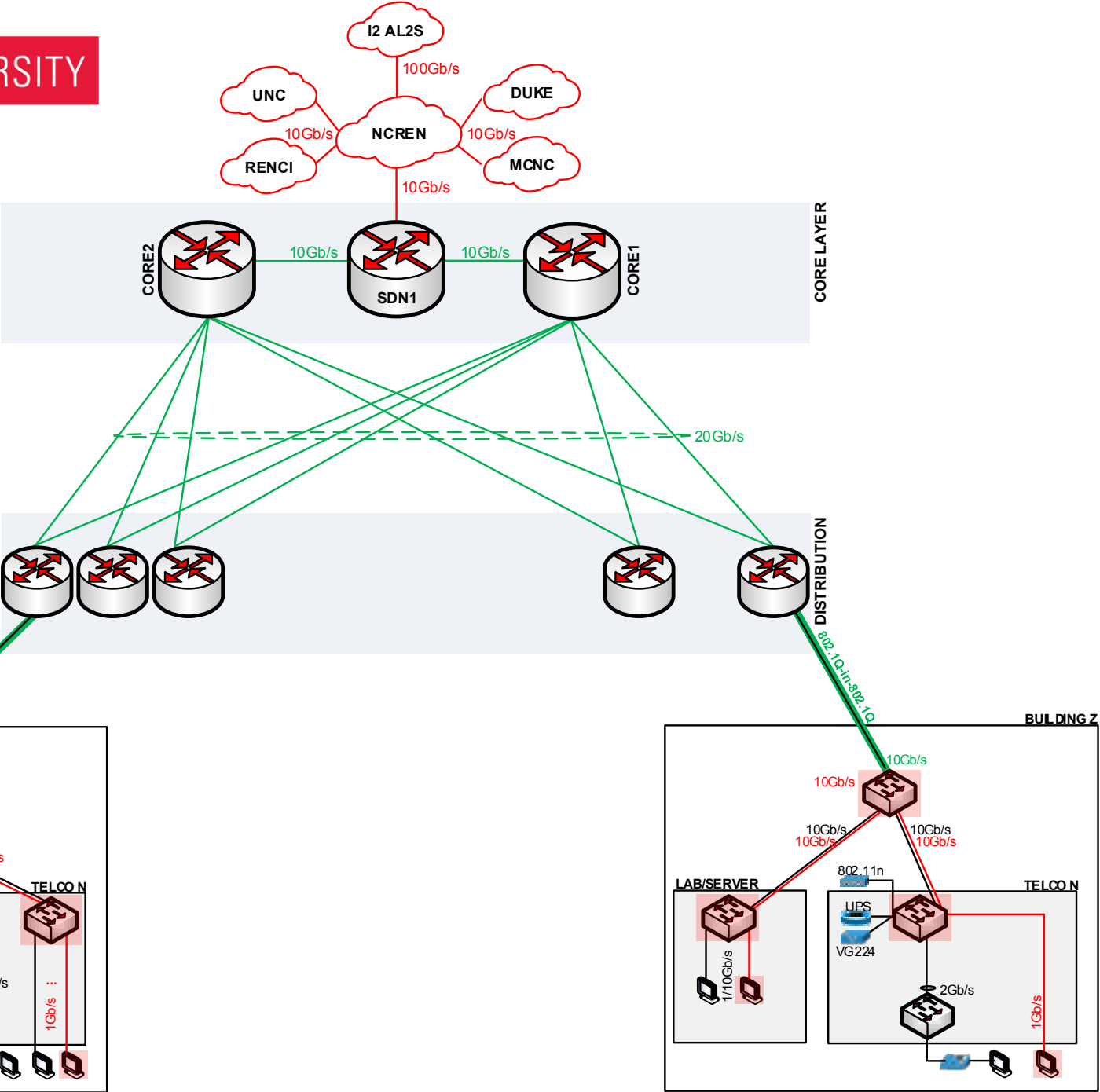
# SDN – Hybrid Implementation



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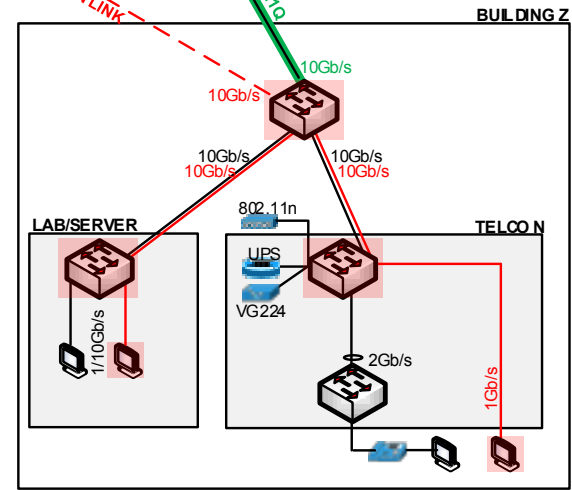
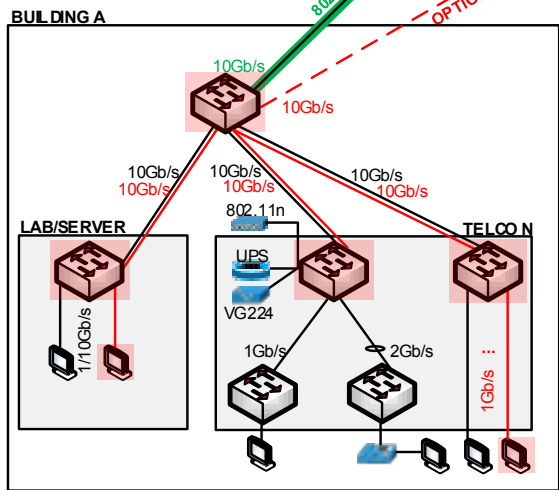
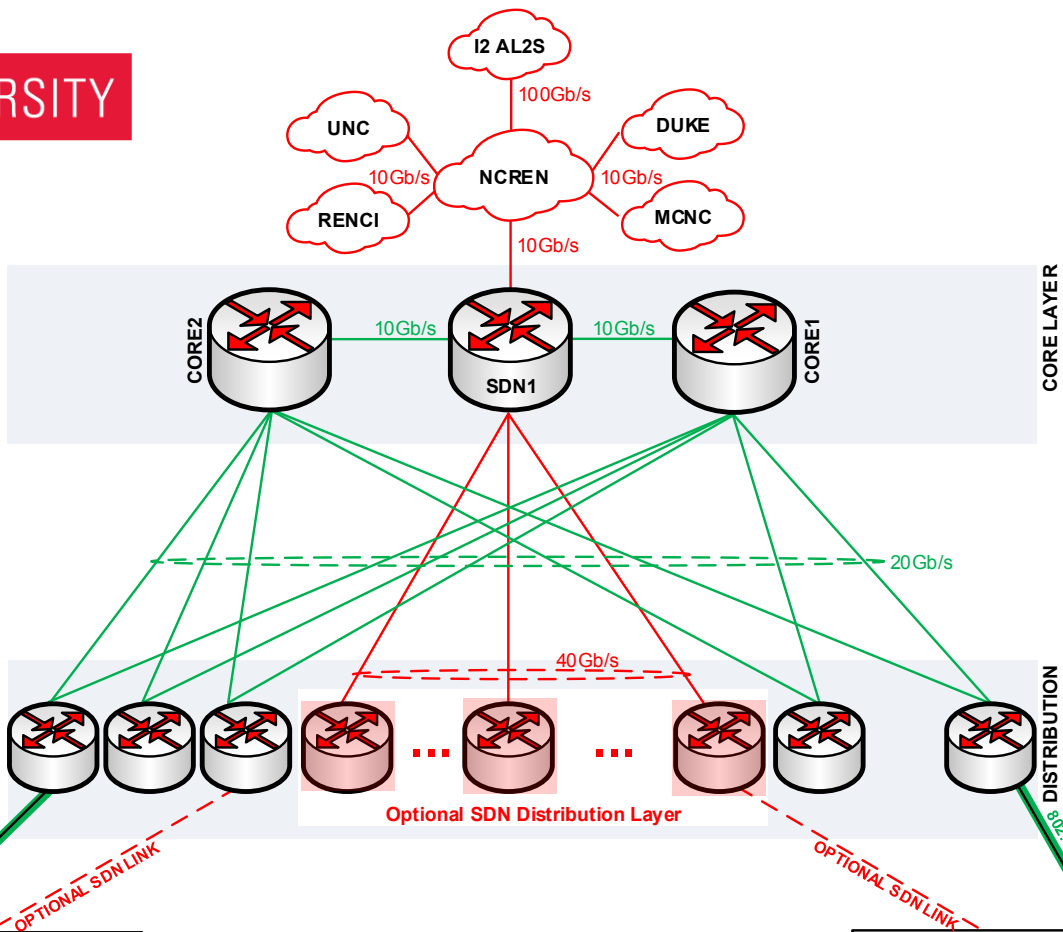


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## Status Update

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- **Prior to submitting our proposal, a test architecture was developed within our lab environment to validate the concepts**
- **We have tested candidate hardware from multiple vendors**
- **We are waiting on generally available code before purchasing hardware**
- **We are working on detailed installation plans within buildings so that when hardware arrives we can install right away**
- **Project Conclusion: August 2015**



## Questions?

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