



THE UNIVERSITY OF
CHICAGO

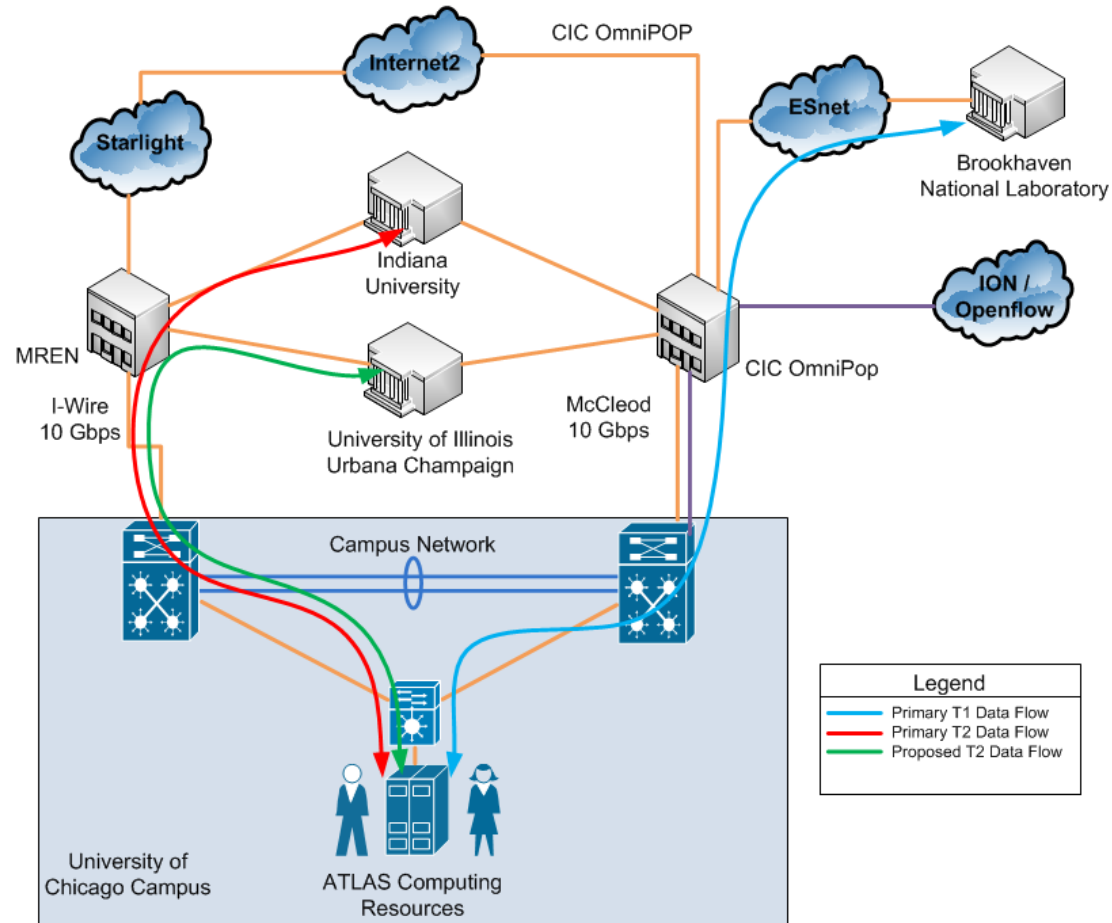
MIDWEST TIER 2 ATLAS CONNECTIVITY

By Brent O'Keeffe

CURRENT CONNECTIVITY

- Dual 10GE Connections to Regional Networks
 - MREN
 - CIC OmniPOP
- Layer 2 Peer Mapping to
 - Brookhaven National Labs for Tier 1
 - Indiana University for Midwest Tier 2
 - Additional peering needed for new Midwest Tier2 member UI-UC
- Dual Layer 3 peering to Internet 2 for fallback ATLAS connectivity

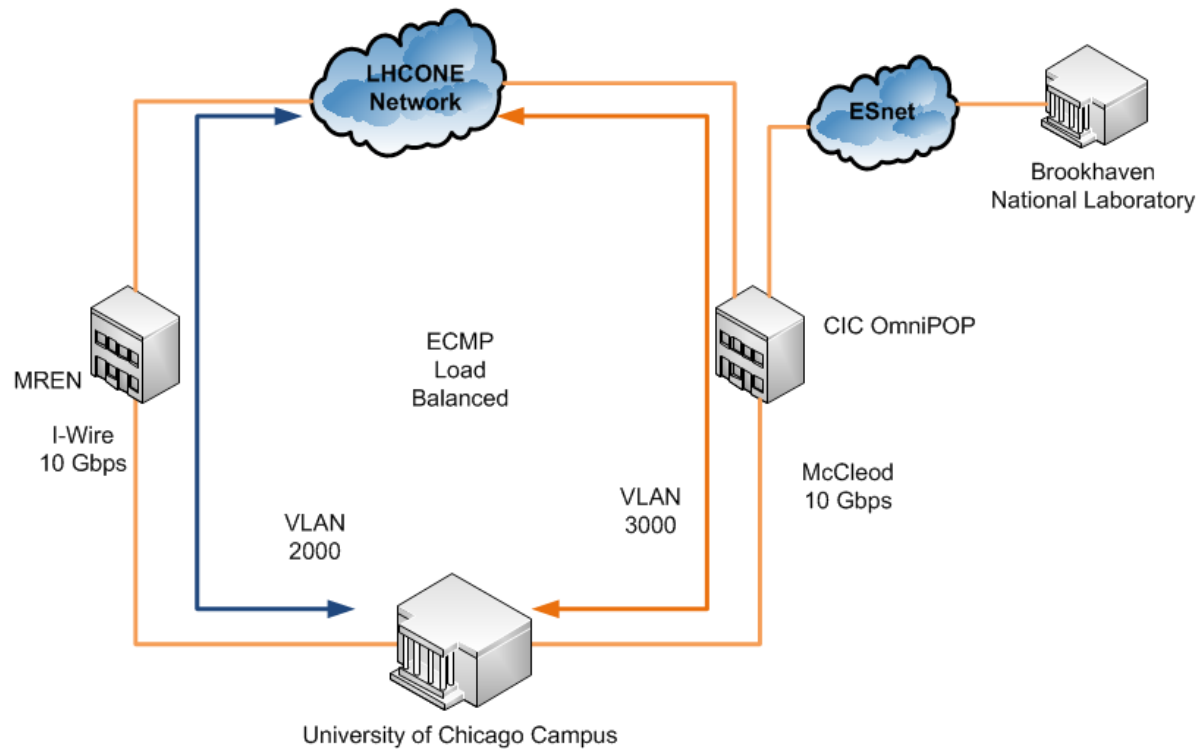
UCHICAGO CURRENT CONNECTIVITY



FUTURE ARCHITECTURE

- Larger Data Flows
- Bandwidth Availability
- Campuses Beyond 10Gb / Up to 20Gb possibly?
- MREN versus OMNIPOP
- UChicago/UIUC Direct Physical Connection
- 100Gb Roadmap
 - Upgrading Ciena DWDM to 100G Capable – Jan. 2012

STANDARD CONNECTIVITY



INVESTIGATING LAYER 3

- Connect to LHCONE using two paths
 - Static mapped VLAN 3000 via MREN / Starlight
 - Dynamic mapped VLAN 3000 via DYNES (through CIC OmniPOP)
- Routed border to LHCONE Network
- Implement Optimized Edge Routing
 - Utilizing BGP Local Pref and AS Prepending to prefer one path vs. another
 - Decision may be based on many factors (Latency, jitter, probe data)
- May require additional LHCONE IP Space
 - Advertise more granular CIDR ranges to distribute load

INVESTIGATING LAYER 3

