GENI Network Stitching in AL2S

GEC 21 GENI Operations

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GENI Network Stitching in AL2S

- Advanced Layer 2 Service (AL2S) supports GENI Network Stitching via the GENI AM API V2 aggregate Open Exchange Software Suite (OESS).
- Test Plan and status can be found at:

  http://groups.geni.net/geni/wiki/GENIOESSTopologiesTestPlan

  http://groups.geni.net/geni/wiki/GENIOESSTopologiesTestStatus
- AL2S validation is not yet completed, so stitching to/from AL2S sites is only available via the Test Stitching Computation Service (SCS).

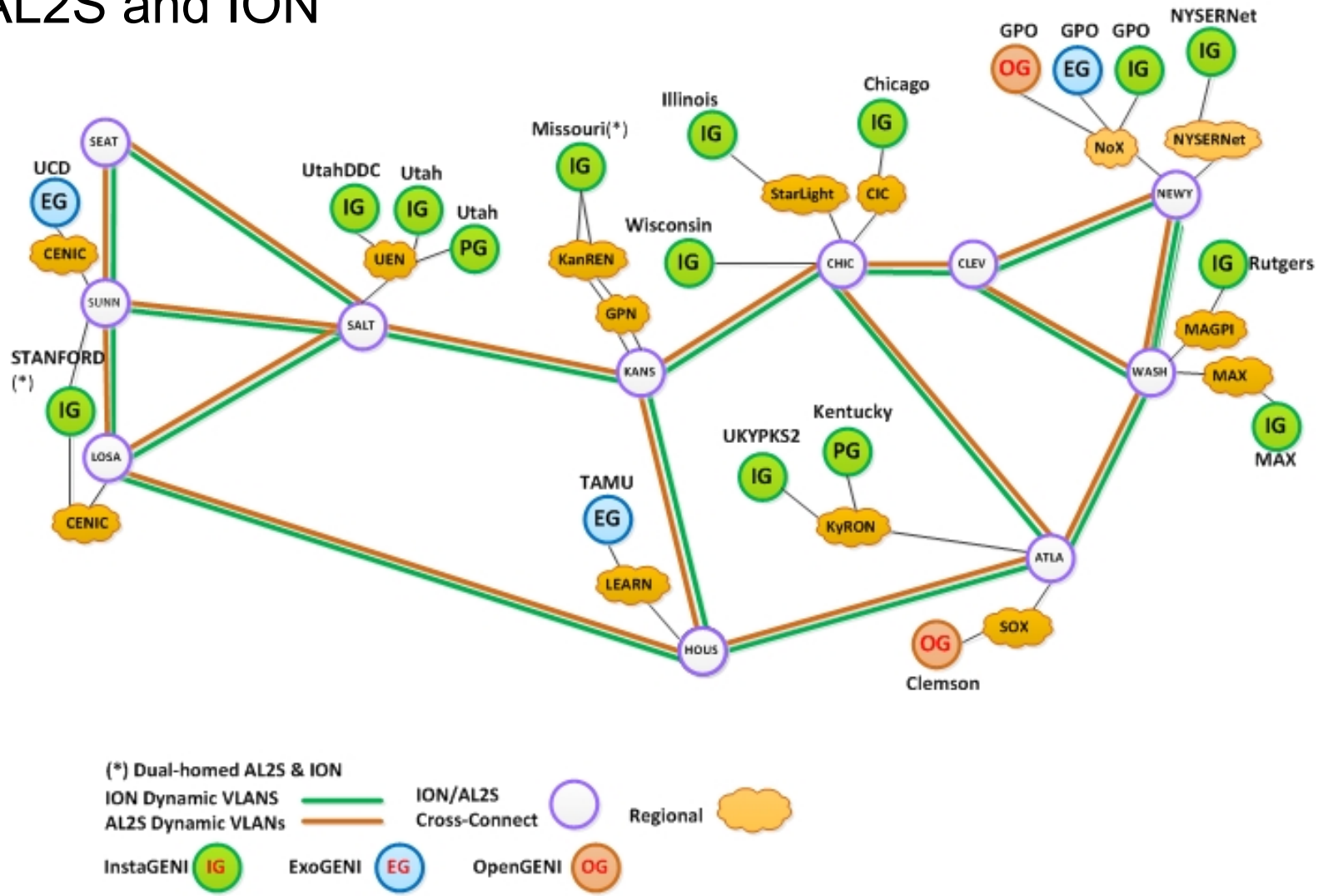
GENI Network Stitching in AL2S (cont.)

- There are currently 5 GENI AL2S Sites that support GENI Network Stitching:
  - Stanford IG (dual-homed, ION and AL2S)
  - Missouri IG (dual-homed, ION and AL2S)
  - Chicago IG (AL2S)
  - TAMU EG (AL2S)
  - UCDavis EG (AL2S)
- Stitching to/from these AL2S sites is possible to any of the 14 ION Sites that support stitching.

  http://groups.geni.net/geni/wiki/GeniNetworkStitchingSites

GENI Network Stitching in AL2S (cont.)

AL2S and ION



Validated Stitching Topologies

ION only Topologies

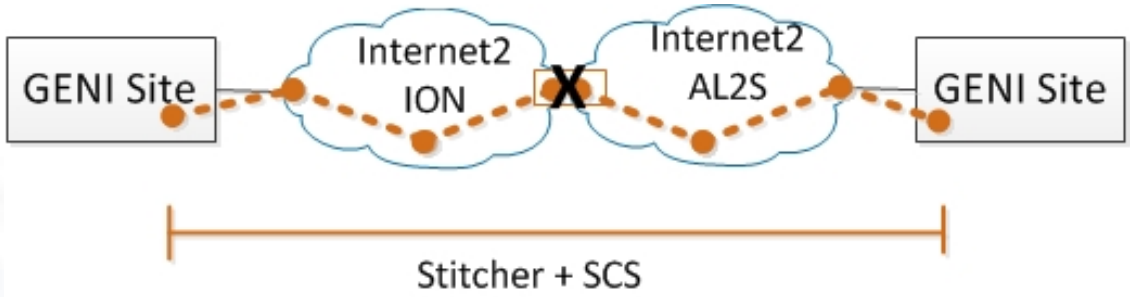
Environment is stable, most current issues are about resource shortage (site VLANs, site bandwidth).

Validated Stitching Topologies(cont.)

ION via cross-connect to AL2S Topologies

AL2S to ION Cross-connects:

- Atlanta
- Chicago
- Cleveland
- Houston
- Kansas
- Los Angeles
- New York
- Salt Lake
- Seattle
- Washington



- All 10 cross-connects have been verified and performance was captured for all cross-connects.
- Cross-connects to be used are now automatically determined by SCS based on end-points aggregates.
- Specific cross-connects can be picked by stitcher by using *excludehop* and *includehoponpath* arguments
- No issues specific to cross-connects.

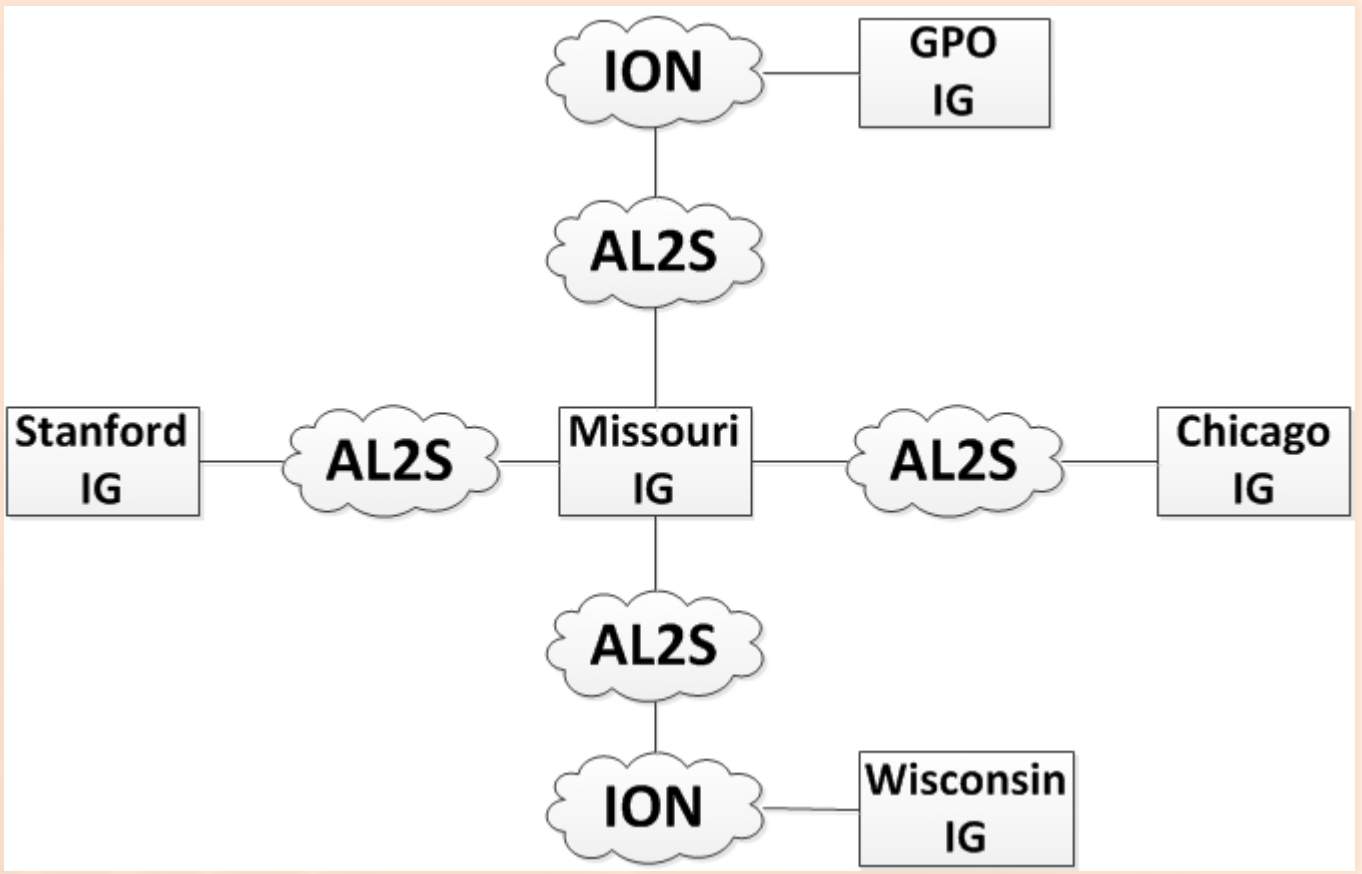
Validated Stitching Topologies(cont.)

AL2S only Topologies

- SCS knows of AL2S paths from the OESS Advertisement.
- Under test not yet available to experimenters
- Testing has focused on number or slices, multiple links and complex topologies possible with 5 sites.
- To be tested: Scaling, Operator functions, Monitoring.
- Issues: full AM API support, VLAN ‘any’ request, manifest sliver completeness/format, SpeaksFor. Not the latest FOAM may/will require upgrade.

ION to AL2S topologies:

- Under test and not yet available to experimenters.
- Test focus on more complex topologies:



ION Sites to AL2S topologies (cont.):

- Expand testing of complex topology, only 3 sites had been available up to recently, TAMU and UCD added week of 10/15/14.
- Issues: Timing issues for deleting sliver with more than 3 AL2S sites. Not enough testing in this area yet.