Progress Report
Week of July 27, 2020

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Weekly Goals

- Learn about tomography strategies.
- Develop tomography of static network (e.g., with latency/packet loss).
- Ensure perfSONAR node distribution allows visibility into entire network.
- Generate, store and draw shortest paths between PS nodes.
- Stretch: Simulate network activity.
- Stretch: Generate time series data based on that activity.
- Stretch: Learn how this connects to anomaly detection.
- Stretch: Explore how the model can be applied to real network data.

Daily Log

Monday, July 27

- Network Analytics Discussion meeting.
- Spoke with Ilija about using latency and hop distributions to tune packet loss so that it is appropriate for the scale of the model.
  - PS Nodes: 10 (model), 250 (real)
  - Nodes: 100 (model), 10000 (real)
- Switched betweenness algorithms, per a suggestion from Andrew, dramatically increasing the speed of PerfSONAR node assignment.

Tuesday, July 28

- Created tables in Kibana to get latency (using one way delay) and hops (using trace), exported that data and added it to my project.
- Wrote functions to add and remove perfsonar nodes from existing graphs.
- Changed all nodes to text.
- Broke graphs because nearest distance tables relied on integer indexing.

Wednesday, July 29

- Fixed graphs by implementing consistent storage of nodes as strings and conversion to ints where necessary.
- Added versioning to graphs.
- Added save graph feature for modified graphs.
- Added functions to change perfsonar nodes

Thursday, July 30

- SAND informal working meeting
- Tweaked edges to find
- Factored out edge creation to allow more control
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Friday, July 31

- Finished reports.
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Achievements

I learned about...

-

I created...

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Roadblocks

Questions

-

Problems

-

Challenges

-

Plans for Next Week

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