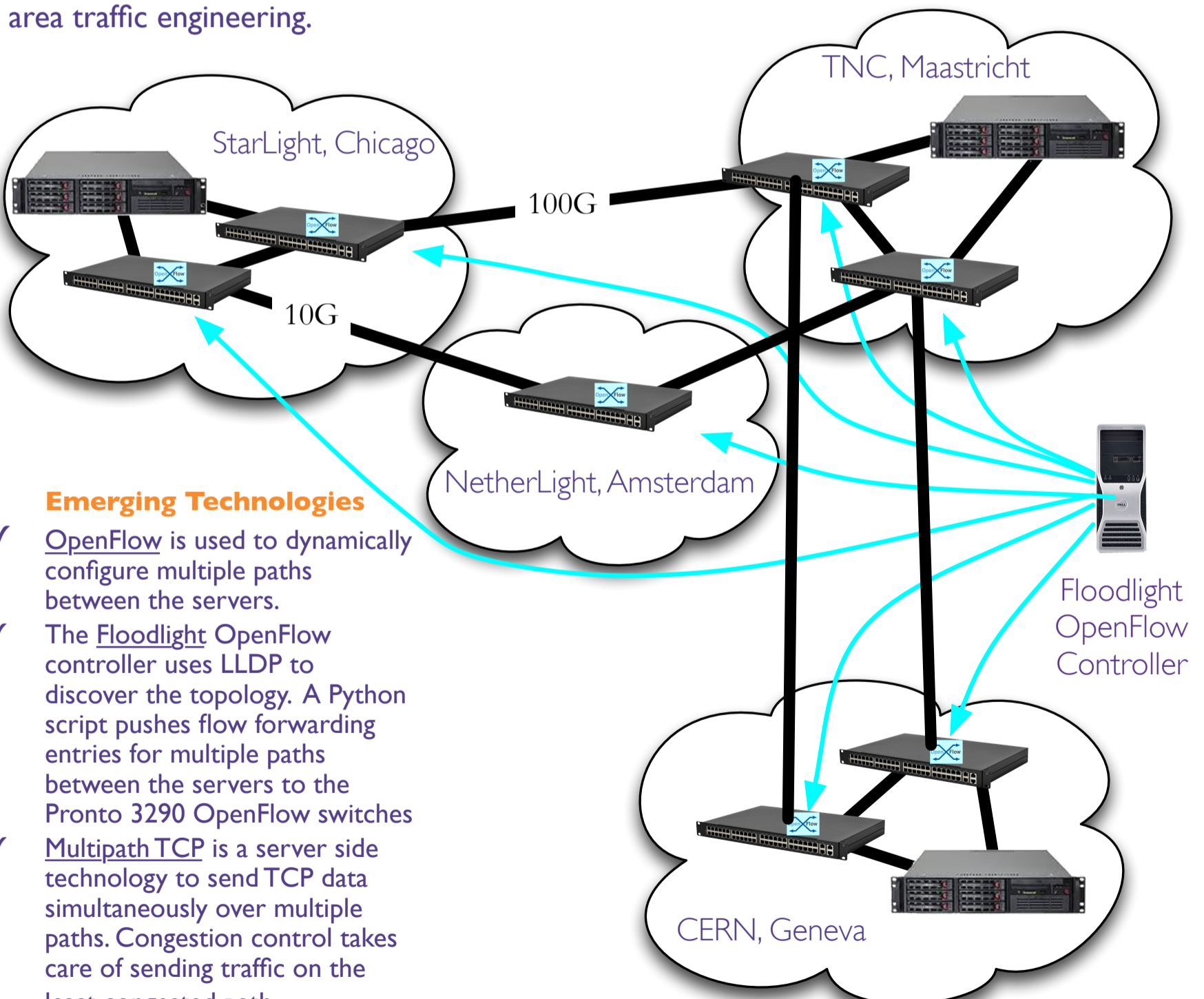


Big Data Transfers with Multipathing, OpenFlow and MPTCP

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Scientific data sets are increasing exponentially in size. Moving these huge data sets around requires efficient use of all available network capacity, which means using multiple paths between source and destination where available. In this demonstration a prototype of a multipath layer 2 network is shown. Multipath TCP is used by the end hosts to distribute the traffic across multiple paths, while OpenFlow is used for wide area traffic engineering.



Emerging Technologies

- ✓ OpenFlow is used to dynamically configure multiple paths between the servers.
- ✓ The Floodlight OpenFlow controller uses LLDP to discover the topology. A Python script pushes flow forwarding entries for multiple paths between the servers to the Pronto 3290 OpenFlow switches
- ✓ Multipath TCP is a server side technology to send TCP data simultaneously over multiple paths. Congestion control takes care of sending traffic on the least congested path.

Partners:

