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Steroid OpenFlow Service

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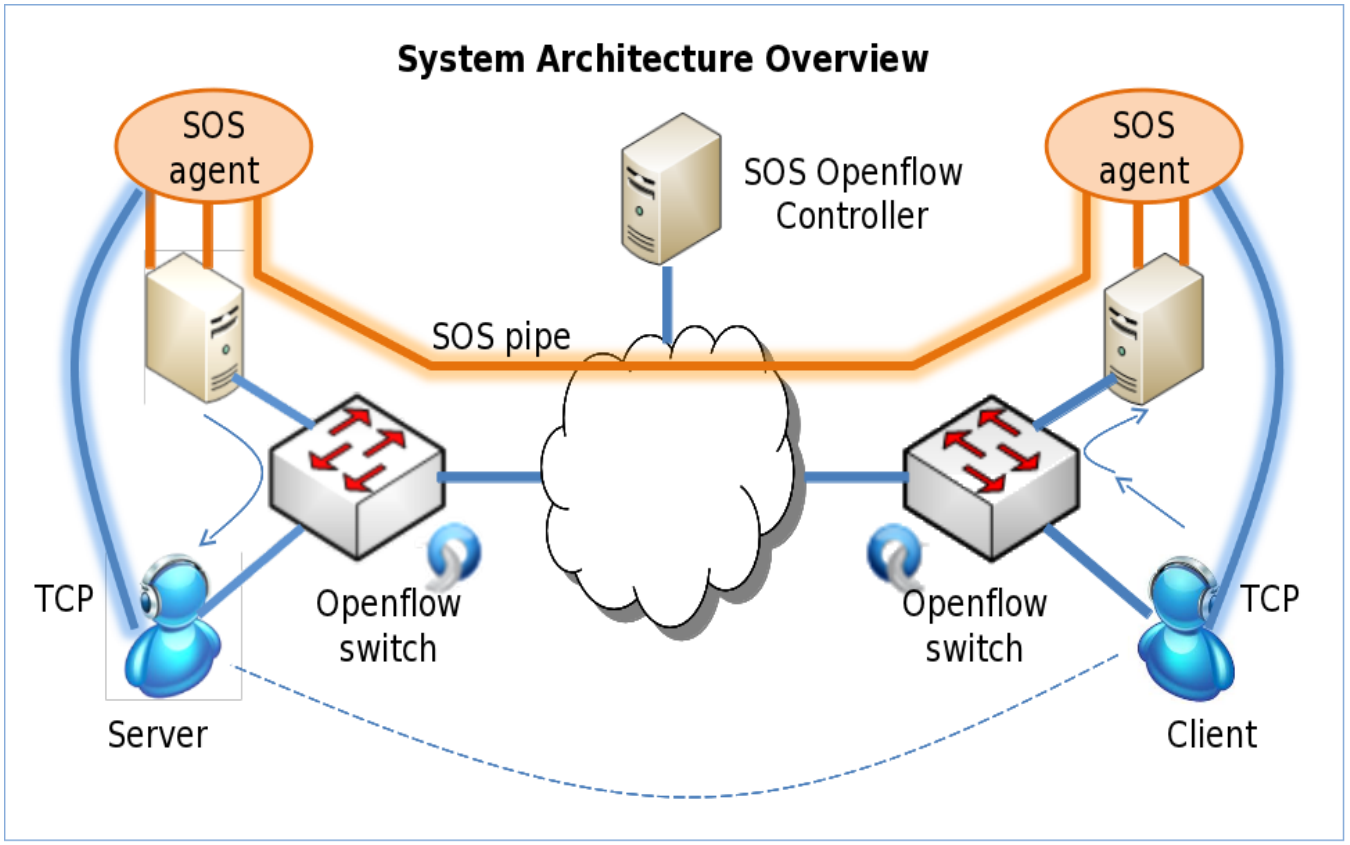
Steroid OpenFlow Service

- SOS provides a seamless enhancement to end-to-end application throughput over long range networks.
- Decouples users protocol from network



Issues I had

Problem:

- Used switches in path for header rewrite. VERY SLOW (1Gbps → 1Mbps)
- Not all vendors have these features implemented in hardware

My Solution:

- Attach software switch to host in order to perform rewrite.

Issues I had

Problem:

- Running software switch on Planetlab resource.

My Solution:

- Get Planetlab admin to provide root access or configure for you. (Requires additional VLAN/cross connect)
- Use Protogeni node.

More Problems:

- Doesn’t scale to allow multiple experimenters

Issues I had

Problem:

- Pushing tons of flow mods to switch causes them to stack up in software path (HP).
- Exact match needed for directing different streams out different ports.

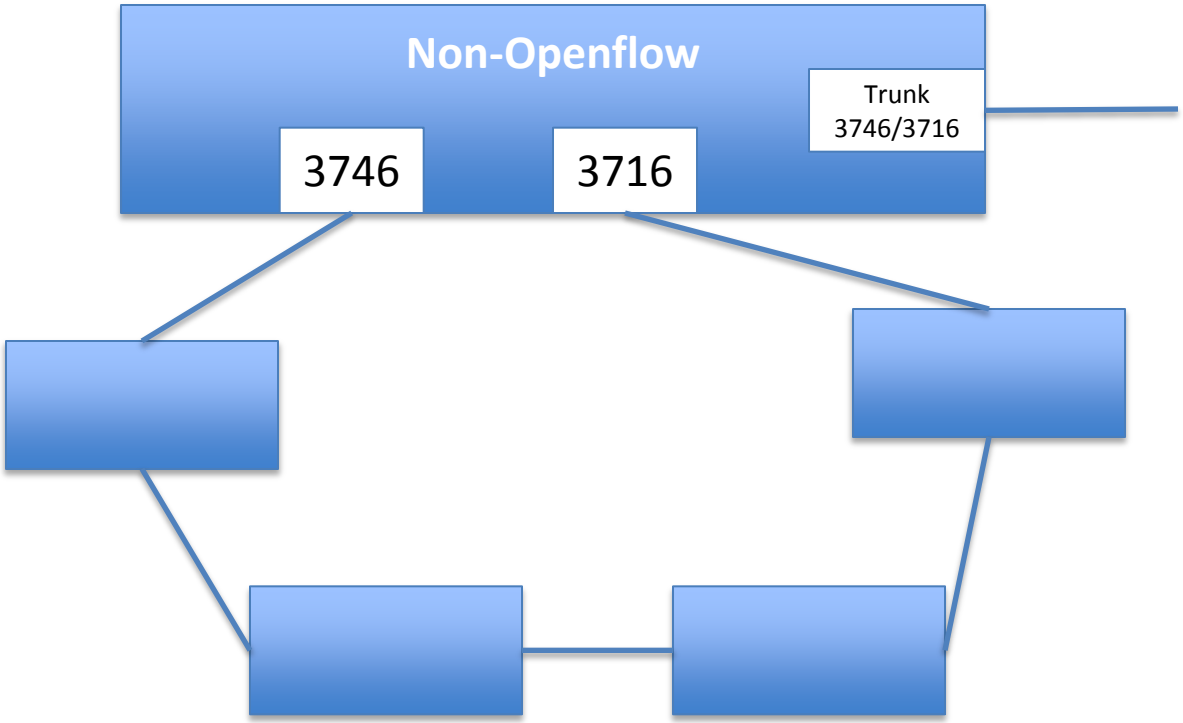
My Solution:

- Rewrite mac address on node for each path and just match on that.

Issues I had

Problem:

- Unable to send data multipath to specific hosts.



- Unique mac addresses per subnet interface on Planetlab nodes.
- Slice expiration notification would be nice.

Slice Approval :

- Manual process
- Usually pretty fast but could take a day to change slice.
- Could request all resources and slice oneself.

- All and all everything works pretty well and is relatively easy to get up and running.
- Jabber chat room, real time debugging.